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DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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**Published:**

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7 June 2012

(54) Title: DIRECTIONAL GAS PRESSURE DEVICE

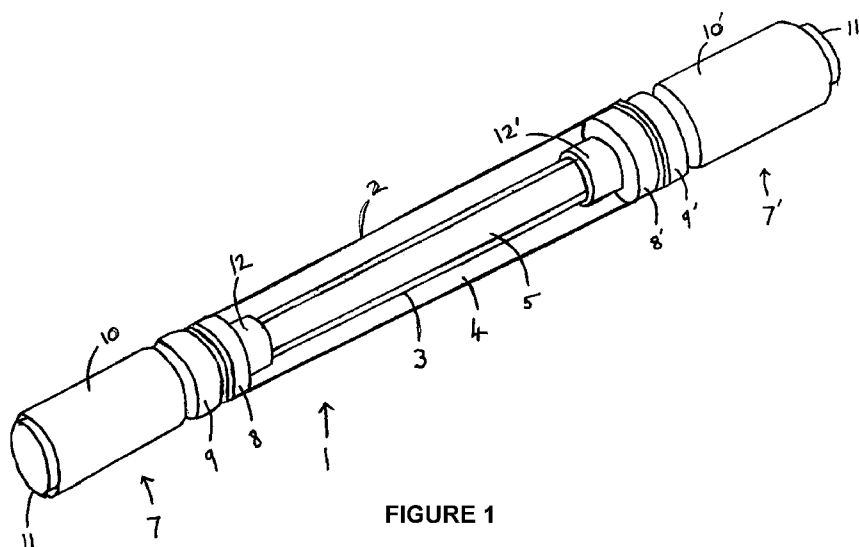


FIGURE 1

(57) Abstract: A directional gas pressure device (1) comprises a body (2) having openings at each end thereof, a closure member (7) for each end thereof, a tie member extending through the body, the closure members (5) being attached to the tie member. The closure members are adapted to increase their size upon evolution of gas from a pyrotechnic charge material contained within the body.



**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/GB2010/051416

**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. F42B3/04 F42B3/06 F42D3/04  
 ADD.

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)  
 F42B F42D

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 practical, search terms used)  
 EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2008/047455 A1 (TOTA EDWARD WALENTY [AU]) 28 February 2008 (2008-02-28) cited in the application abstract figures	1,18
A	----- GB 324 617 A (DAVID HODGE) 20 January 1930 (1930-01-20) page 4, line 91 - line 115 figures	1,18
A	----- US 3 234 876 A (FRANK TEATHER ET AL) 15 February 1966 (1966-02-15) the whole document ----- -/--	1,18

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

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier document but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  13 April 2012	Date of mailing of the international search report  23/04/2012
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Vermander, Wim
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2010/051416

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 20  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2010/051416

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 761 453 A (CARDOX GREAT BRITAIN LTD; STANLEY ATHERTON; THOMAS ALFRED SHIMMIN) 14 November 1956 (1956-11-14) the whole document	1,18
A	----- GB 2 341 917 A (TOWNLEY MALYON RAYMOND [GB]; TOWNLEY MALYON SIMON [GB]; MORRIS RODERIC) 29 March 2000 (2000-03-29) abstract figures -----	1,18

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/GB2010/051416
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008047455	A1	28-02-2008	AU 2005207543 A1 04-08-2005
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			US 2008047455 A1 28-02-2008
			WO 2005071349 A1 04-08-2005
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GB 324617	A	20-01-1930	NONE
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US 3234876	A	15-02-1966	NONE
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GB 761453	A	14-11-1956	NONE
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GB 2341917	A	29-03-2000	NONE
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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.2

Claims Nos.: 20

Claim 20 contains a reference to the description and/or the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2) declaration be overcome.