(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 December 2009 (10.12.2009)

PCT

(10) International Publication Number
WO 2009/148520 A3

(51) International Patent Classification:
F16K 17/38 (2006.01) *F16K 31/48* (2006.01)
F16K 31/64 (2006.01) *F16K 17/02* (2006.01)

(21) International Application Number:
PCT/US2009/003178

(22) International Filing Date:
21 May 2009 (21.05.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
12/156,272 29 May 2008 (29.05.2008) US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,

[Continued on next page]

(54) Title: THERMALLY ACTIVATED PRESSURE RELIEF

(57) Abstract: The housing is attachableto a high pressure fluid containing structure. A piston is provided within the housing, with the piston having a closed position and an open position. The closed position blocks an outlet vent of the relief device, with the open position allowing high pressure fluid to escape through the vent. The piston is biased toward the open position by the high pressure fluid, but is held in the closed position by a slide. The slide has a first position and a second position, with the first position holding the piston in the closed position. A spring biases the slide toward a second position, with a eutectic mass resisting movement of the slide to the second position. The eutecticmass is selected to havea meltingpoint matching a maximumdesign temperature for the high pressure fluid containing structure. Should the eutectic mass melt, the high pressure fluid escapes.

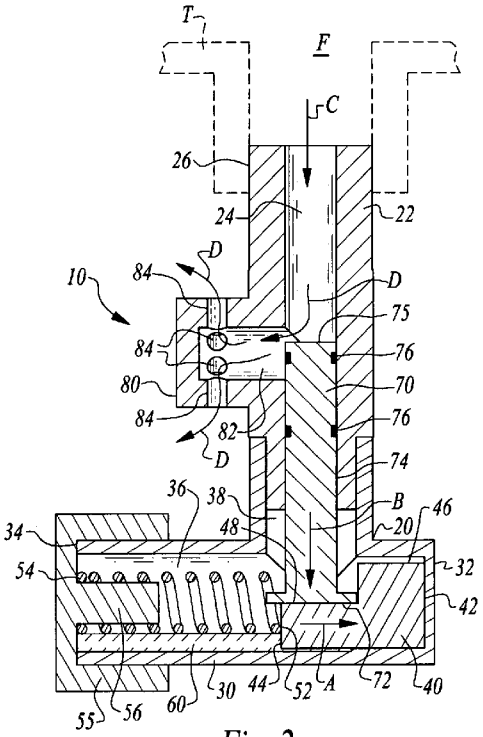


Fig. 2

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TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
11 March 2010

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/003178

A. CLASSIFICATION OF SUBJECT MATTER

F16K 17/38(2006.01)i, F16K 31/64(2006.01)i, F16K 31/48(2006.01)i, F16K 17/02(2006.01)i

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)
F16K 17/38; F16K 17/40; F17C 13/04

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
(Chinese Patents and application for patent)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: relief valve, thermal, eutectic, temperature and spring

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5161738 A (WASS; LLOYD G.) 10 November 1992 See column 4, line 50 - column 5, line 19; claim 1 and figures 1-3.	1-22
A	US 5495865 A (WASS; LLOYD G. et al.) 05 March 1996 See column 5, line 50 - column 6, line 55; claim 1 and figures 4-6.	1-22
A	JP 2005-076862 A (KAWASAKI PRECISION MACHINERY LTD) 24 March 2005 See paragraphs 48 - 60; claim 1 and figures 3-6.	1-22
A	US 5632297 A (SCIULLO; DINO V. et al.) 27 May 1997 See column 6, lines 16 - 25, line 55; claim 1 and figures 3&4.	1-22

☐ 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
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
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"P" document published prior to the international filing date but later than the priority date claimed
"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
"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
"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
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 JANUARY 2010 (19.01.2010)	**20 JANUARY 2010 (20.01.2010)**

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Facsimile No. 82-42-472-7140	Telephone No. 82-42-481-8426

Form PCT/ISA/210 (second sheet) (July 2008)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/003178

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