

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 March 2006 (23.03.2006)

PCT

(10) International Publication Number
WO 2006/032060 A3

(51) International Patent Classification:

- H01H 73/22 (2006.01)
- H01H 39/00 (2006.01)
- H01H 85/00 (2006.01)
- H01H 71/20 (2006.01)
- H01H 85/04 (2006.01)
- H01H 71/10 (2006.01)
- H01H 71/08 (2006.01)
- H01H 85/02 (2006.01)
- H01H 85/20 (2006.01)
- H01H 85/22 (2006.01)
- H01H 85/48 (2006.01)
- H01H 85/143 (2006.01)
- H01H 85/165 (2006.01)
- H01H 85/26 (2006.01)
- H01H 85/38 (2006.01)
- H01H 85/12 (2006.01)
- H01H 85/24 (2006.01)
- H01H 69/02 (2006.01)
- H01R 13/46 (2006.01)

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(21) International Application Number:

PCT/US2005/033595

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(22) International Filing Date:

15 September 2005 (15.09.2005)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language:

English

(26) Publication Language:

English

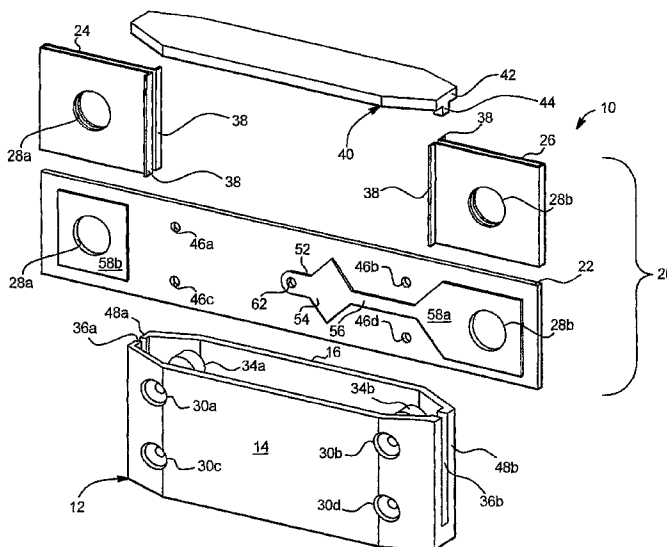
(30) Priority Data:

60/610,401 15 September 2004 (15.09.2004) US

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: HIGH VOLTAGE/HIGH CURRENT FUSE



(57) Abstract: A fuse for a high voltage/high current application, such as a hydro-electric vehicle ("HEV") application is provided. The fuse employs a variety of arc quenching features to handle a large amount of arcing energy that is generated when such fuse is opened due to a fuse opening event. In one embodiment, an insulative substrate, such as a melamine substrate, is metallized with a fuse element. The fuse element extends to multiple surfaces of the substrate. A fuse opening portion of the element is located so that the arcing energy is forced to travel along multiple insulative planes, increasing an impedance across the opening of the element and decreasing the likelihood of a sustained arc. Also, the substrate and element are disposed in a sealed housing, which is packed in one embodiment with an arc quenching material, such as sand.

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GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
9 August 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/33595

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: Please See Continuation Sheet

 USPC: Please See Continuation Sheet
 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. : Please See Continuation Sheet

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)
 EAST - fuse, fusible, substrate, body, casing, housing, element, terminal, arc, quenching, resin, holes, film

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,812,046 (BROWN et al.) 22 September 1998 (22.09.1998), column 3, line 20 to column 4, line 26 and figure 1.	1,2,5,13,17,21,22,23,24,30,31,32,40,41
Y	US 5,426,411 (PIMPIS et al) 20 June 1995 (20.06.1995), column 3, lines 21-65 and column 5, lines 29-62 and figures 1-2.	3,19,20,35,36,39
Y	US 6,590,490 B2 (ACKERMANN) 08 July 2003 (08.07.2003), column 1, lines 40-67, column 2, lines 10-58, column 3, lines 5-39, column 4, lines 10-31 and column 5, lines 8-13 and figure 2.	4,6,7,8,9,10,33,37,38
Y	US 5,854,583 (FALCHETTI) 29 December 1998 (29.12.1998), column 3, lines 43-55 and figure 1.	11,12
Y	US 6,384,708 B1 (JOLLENBECK et al) 07 May 2002 (07.05.2002), column 4, lines 39-67, column 5, lines 1-4, 51-65 and figure 1.	26,27,28,29

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

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Date of the actual completion of the international search
10 May 2007 (10.05.2007)

Date of mailing of the international search report
06 JUN 2007

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/33595

Continuation of B. FIELDS SEARCHED Item 1:

337/33,142,145,150,157,158,159,168,170,177,181,208,222,227,228,229,230,231,260,262,34,166,186,273,255,161,162,176;439/622,893,621;29/623

Continuation of IPC:

H01H 73/22(2006.01),**39/00**(2006.01),**85/00**(2006.01),**71/20**(2006.01),**85/04**(2006.01),**71/10**(2006.01),**71/20**(2006.01),**71/08**(2006.01),**85/02**(2006.01),**85/20**(2006.01),**85/22**(2006.01),**85/48**(2006.01),**85/143**(2006.01),**85/165**(2006.01),**85/26**(2006.01),**85/38**(2006.01),**85/12**(2006.01),**85/24**(2006.01),**69/02**(2006.01);**H01R 13/46**(2006.01)

Continuation of USPC:

337/33,142,145,150,157,158,159,168,170,177,181,208,222,227,228,229,230,231,260,262,34,166,186,273,255,161,162,176;439/622,893,621;29/623