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(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.

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Declaration under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

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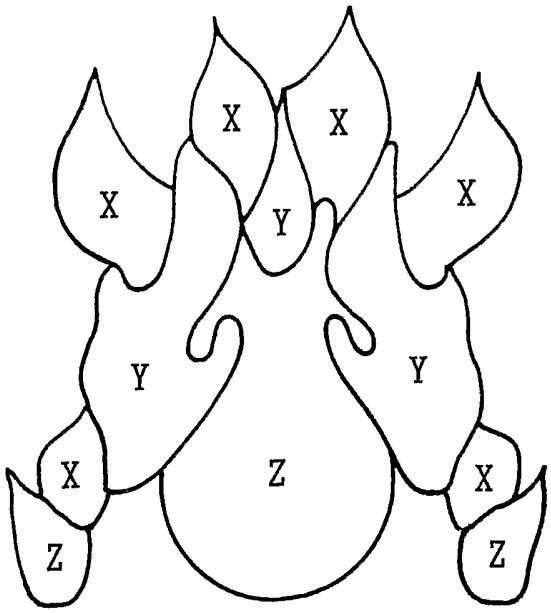
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
8 June 2006

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.

(54) Title: APPARATUS FOR PRODUCING AN OPTICAL EFFECT OR FOR SIMULATING FIRES AND SIMULATED FIREPLACES INCLUDING SUCH APPARATUS



(57) Abstract: Apparatus for producing an optical effect includes a screen comprising at least one electroluminescent material and associated electrodes for exciting the electroluminescent material to emit light. The electrodes are locally excitable so that the regions of the electroluminescent material generally in the shape of flames may be excited. In an alternative form, or additionally, the screen comprises a material of variable opacity such as a liquid crystal polymer or a suspended particle device. gain, electrodes are locally excitable to locally change the opacity of the screen. The screen is locally illuminated to provide the impression of flames.

WO 2006/040167 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2005/011044

A. CLASSIFICATION OF SUBJECT MATTER
F24C7/00

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)
F23C F21S F21V G09G

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.
X Y	EP 1 351 303 A (EASTMAN KODAK COMPANY) 8 October 2003 (2003-10-08) paragraphs [0001], [0016], [0018]; figures 4,7	1-3,5,26 4,6-8
Y	US 2003/161145 A1 (LIU MONITA ET AL) 28 August 2003 (2003-08-28) paragraphs [0001], [0012], [0040]; figure 2	4
Y	GB 2 322 188 A (* ELECTRO-WAERME-TECHNIK) 19 August 1998 (1998-08-19) figure 2 page 2, line 28 - page 3, line 4	6-8

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[X] Further documents are listed in the continuation of Box C.

[X] 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 document but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"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
29 March 2006	06. 04. 2006

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Mougey, M

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2005/011044

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	GB 2 232 481 A (* CREDA LIMITED) 12 December 1990 (1990-12-12) page 4, paragraph 4 - page 5, paragraph 3 page 2, paragraph 4 - page 3, paragraph 1 page 7, paragraph 6 page 8, paragraph 3	9-14,16, 24 15
Y A	GB 2 264 555 A (* KENHOLME APPLIANCES; * INGLEBY) 1 September 1993 (1993-09-01) page 11, paragraph 3; figure 5	15 1,4,8,26
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P,X	EP 1 496 497 A (KABUSHIKI KAISHA TOYOTA JIDOSHOKKI) 12 January 2005 (2005-01-12) paragraphs [0007], [0020], [0021]	9,11,14, 16,17
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2005/011044

Box 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.:
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:

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 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:

see additional sheet

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 fee, this Authority did not invite payment of any additional fee.

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.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8,26

   Use of an electroluminescent screen to simulate a flame

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2. claims: 9-25

   Use of a variable opacity screen to perform an optical effect.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2005/011044

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