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**(88) Date of publication of the international search report:**

19 February 2015

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2014/060074

## A. CLASSIFICATION OF SUBJECT MATTER

INV. G02F1/167 E06B3/67  
ADD. B32B17/10 B60J3/04 E06B9/24

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)

G02F E06B B60J B32B 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 practicable, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                          | Relevant to claim No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | US 2013/088768 A1 (HWANG JIUNN-JYE HWANG [TW] ET AL) 11 April 2013 (2013-04-11)                                                                                             | 1,2,18, 24, 30-38,42  |
| Y         | abstract; claims 1-18; figure 1                                                                                                                                             | 3-13,17, 19,          |
| A         | paragraphs [0006], [0008], [0020] - paragraph [0024]; claim 3                                                                                                               | 25-29,39              |
|           | paragraph [0038] - paragraph [0040]                                                                                                                                         | 14-16, 20-23          |
| Y         | -----<br>US 2013/063333 A1 (ARANGO ALEXI C [US] ET AL) 14 March 2013 (2013-03-14)<br>abstract; figures 3,11<br>paragraphs [0015], [0081] - paragraph [0101]<br>-----<br>-/- | 3-13,17, 19,25-29     |

☒ 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 another citation or other special reason (as specified)

"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

12 December 2014

Date of mailing of the international search report

05/01/2015

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                 | Relevant to claim No.        |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| X         | US 2005/213191 A1 (WHITESIDES THOMAS H<br>[US] ET AL) 29 September 2005 (2005-09-29)                                                                               | 35,40,<br>42-46,<br>48,49,63 |
| Y         | abstract                                                                                                                                                           | 38,39,<br>47,<br>50-53,61    |
| A         | paragraph [0042] - paragraphs [0043],<br>[0057]                                                                                                                    | 41,<br>55-60,<br>62,64       |
| Y         | -----<br>US 6 416 868 B1 (SULLIVAN ROBERT MICHAEL<br>[US] ET AL) 9 July 2002 (2002-07-09)<br>abstract; figures 1-8<br>the whole document                           | 38,39,<br>47,61              |
| Y         | -----<br>EP 1 008 564 A1 (SUMITOMO METAL MINING CO<br>[JP]) 14 June 2000 (2000-06-14)<br>abstract<br>paragraphs [0001], [0005], [0009],<br>[0023], [0024]<br>----- | 50-53                        |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2014/060074

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date         |
|-------------------------------------------|---------------------|----------------------------|-----------------------------|
| US 2013088768                             | A1                  | 11-04-2013                 | CN 103030896 A 10-04-2013   |
|                                           |                     |                            | TW 201316110 A 16-04-2013   |
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| US 6416868                                | B1                  | 09-07-2002                 | EP 1108681 A2 20-06-2001    |
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| EP 1008564                                | A1                  | 14-06-2000                 | DE 69930822 T2 30-11-2006   |
|                                           |                     |                            | EP 1008564 A1 14-06-2000    |
|                                           |                     |                            | JP 4096278 B2 04-06-2008    |
|                                           |                     |                            | JP 2000169765 A 20-06-2000  |
|                                           |                     |                            | US 6319613 B1 20-11-2001    |
| -----                                     |                     |                            |                             |

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2014/060074

### 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.:  
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 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:

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 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.:  
  
1-64
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.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

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

1. claims: 1-34

A solar control device comprises a first electrode and a second electrode spaced apart from said first electrode, and between said electrodes an electrophoretic cell containing an infrared-reflecting electrophoretic ink, said ink having one or more types of charged particles suspended in a suspending fluid and at least one type comprises wavelength-selective charged particles that selectively substantially restrict reflection to an infrared part of the sunlight spectrum.

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2. claims: 35-42

An electrophoretic medium comprising charged particles of at least one type suspended in a suspending fluid, said charged particles providing infrared wavelength selectivity by directly reflecting a significant part of the sunlight infrared spectrum and strongly absorbing the visible spectrum and said charged particles are capable of responding to an electric field applied to said medium to move there through.

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3. claims: 43-64

An electrophoretic medium comprising charged particles of at least one type suspended in a suspending fluid, said charged particles being transparent to visible light and providing infrared wavelength selectivity by directly reflecting a significant part of the sunlight infrared spectrum; and, said charged particles are capable of responding to an electric field applied to said medium to move there through.

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4. claims: 65-75

An electrophoretic solar medium comprising charged particles of at least two types suspended in a suspending fluid, one of said types comprising charged particles which are wavelength selective, absorbing the sunlight visible spectrum and transmitting the sunlight infrared spectrum, and another of said types comprising charged particles that selectively substantially restrict reflection to an infrared part of the sunlight spectrum; and, said charged particles are capable of responding to an electric field applied to said medium to move there through.

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