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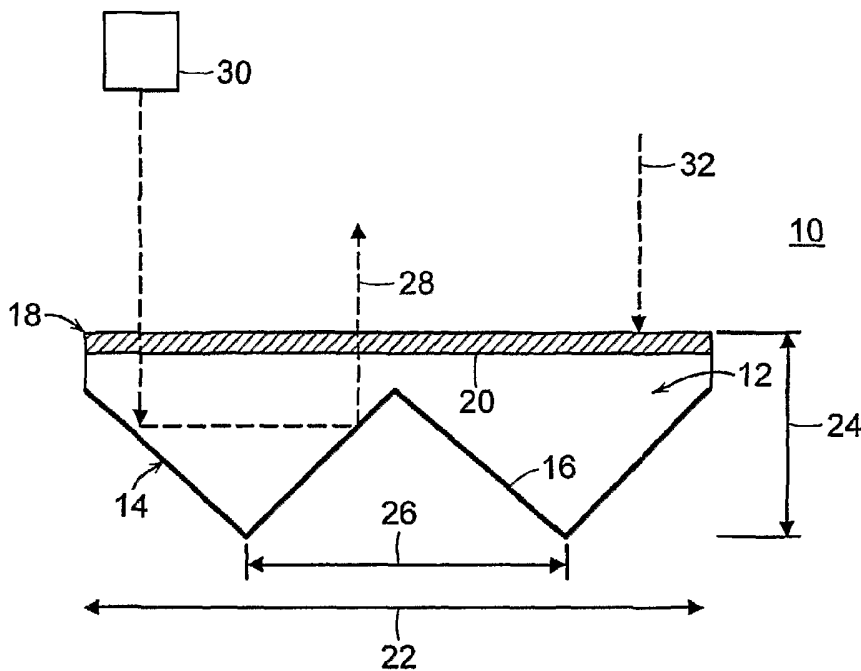
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- (74) Agents: **CONWAY, Robert, T.** et al.; Hamilton, Brook, Smith & Reynolds, P.C., 530 Virginia Road, P.O. Box 9133, Concord, MA 01742-9133 (US).
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[Continued on next page]

(54) Title: RETROREFLECTIVE STRUCTURES



(57) Abstract: Retroreflective structures, which can include chips, flakes, threads, fibers, sheeting, octahedron retroreflectors, etc., are provided in accordance with embodiments of the present invention. The structures can utilize full or truncated open-faced surfaces and/or solid cube-corner prisms. A coating can be provided on the surfaces that is configured to reflect a first predetermined wavelength or range of wavelengths of light while allowing a second predetermined wavelength or range of wavelengths to pass therethrough. In other embodiments, a specular or reflective coating can be provided on the open-faced surfaces or facets of the cube-corner prisms.

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Published:

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

26 January 2006

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2005/016692

<p>A. CLASSIFICATION OF SUBJECT MATTER G02B5/124</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p>																	
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) G02B</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, PAJ, INSPEC</p>																	
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category °</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 6 024 455 A (O'NEILL ET AL) 15 February 2000 (2000-02-15) column 5, lines 1-34; figure 3 -----</td> <td>1,3, 32-34</td> </tr> <tr> <td>X</td> <td>US 6 247 818 B1 (HEDBLOM THOMAS P ET AL) 19 June 2001 (2001-06-19) column 7, lines 44-49; figure 2 -----</td> <td>1-5, 32-34</td> </tr> <tr> <td>A</td> <td>US 3 684 348 A (WILLIAM P. ROWLAND) 15 August 1972 (1972-08-15) cited in the application abstract -----</td> <td>1</td> </tr> <tr> <td>A</td> <td>US 3 689 346 A (WILLIAM P. ROWLAND) 5 September 1972 (1972-09-05) cited in the application abstract -----</td> <td>1</td> </tr> </tbody> </table>			Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 6 024 455 A (O'NEILL ET AL) 15 February 2000 (2000-02-15) column 5, lines 1-34; figure 3 -----	1,3, 32-34	X	US 6 247 818 B1 (HEDBLOM THOMAS P ET AL) 19 June 2001 (2001-06-19) column 7, lines 44-49; figure 2 -----	1-5, 32-34	A	US 3 684 348 A (WILLIAM P. ROWLAND) 15 August 1972 (1972-08-15) cited in the application abstract -----	1	A	US 3 689 346 A (WILLIAM P. ROWLAND) 5 September 1972 (1972-09-05) cited in the application abstract -----	1
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<p><input type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.</p>																	
<p>° Special categories of cited documents :</p> <table border="0"> <tr> <td style="vertical-align: top;"> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </td> <td style="vertical-align: top;"> <p>"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</p> <p>"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</p> <p>"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.</p> <p>"&" document member of the same patent family</p> </td> </tr> </table>			<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"&" document member of the same patent family</p>													
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<p>Date of the actual completion of the international search</p> <p style="text-align: center;">9 September 2005</p>		<p>Date of mailing of the international search report</p> <p style="text-align: center;">23. 11. 2005</p>															
<p>Name and mailing address of the ISA</p> <p>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</p>		<p>Authorized officer</p> <p style="text-align: center;">Mollenhauer, R</p>															

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/016692

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.:

1-5, 32-34

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: 1-5,32-34

Retroreflective structure comprising a wavelength-selective coating

2. claims: 6-13

Retroreflective structure configured to retroreflect light in two opposite directions, the structure being characterized by its manufacturing process

3. claims: 14-20

Retroreflective thread with square-sided prisms and retroreflections in at least two directions

4. claims: 21-31

Octahedron retroreflector

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2005/016692

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