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[Continued on next page]

(54) Title: HIGH EFFICIENCY HYBRID SOLAR CELL

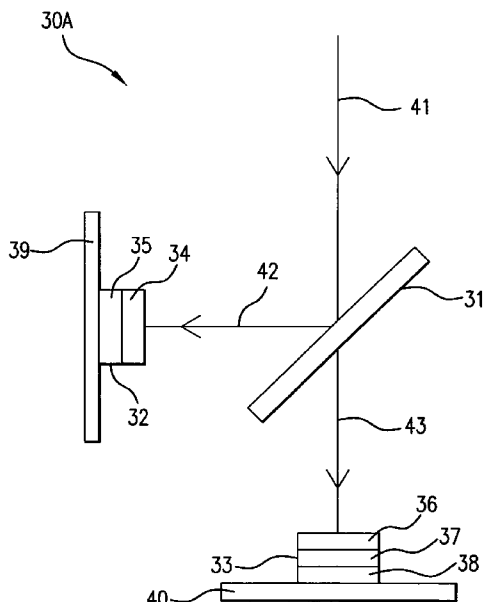


FIG. 3

(57) Abstract: This invention relates to a high efficiency hybrid solar cell comprised of a dichroic mirror, a first cell stack comprising two cells, the first cell being a GaInP cell and the second cell being a GaAs cell and a second cell stack comprising three cells, the first cell being a Si cell, the second cell being a GaInAsP cell and the third cell being a GaInAs cell. The dichroic mirror provides a separation of the solar light into two spectral components, one component of light with photons of energy greater than or equal to E_g that impinges upon the first cell stack and one component of light with photons of energy $< E_g$ that impinges upon the second cell stack.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. H01L31/072 H01L31/0232

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H01L

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, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 902 417 A (LILLINGTON DAVID R [US] ET AL) 11 May 1999 (1999-05-11) column 3, line 56 - column 5, line 8; figure 1	1-8
X	----- BEAUMONT B ET AL: "A Four-Cell Photovoltaic System based on InP and GaAs" PHOTOVOLTAIC SPECIALISTS CONFERENCE. SAN DIEGO, SEPT. 27 - 30, 1982; [PHOTOVOLTAIC SPECIALISTS CONFERENCE], NEW YORK, IEEE, US, vol. CONF. 16, 27 September 1982 (1982-09-27), pages 595-600, XP002082165 figure 1 ----- -/--	1-8

Further documents are listed in the continuation of Box C.

See patent family annex.

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International application No

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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.
A	<p>DAVIES P A ET AL: "CALCULATIONS OF EFFICIENCIES ACHIEVABLE USING GALLIUM ARSENIDE AND SILICON CELLS MOUNTED TOGETHER IN CAVITIES ILLUMINATED BY SINGLE-STAGE CONCENTRATION" SOLAR ENERGY MATERIALS AND SOLAR CELLS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 26, no. 3, 1 April 1992 (1992-04-01), pages 203-215, XP000274201 ISSN: 0927-0248 the whole document -----</p>	1-8

INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5902417	A	11-05-1999	EP	0848432 A2	17-06-1998