



(51) International Patent Classification:

H01L 31/0749 (2012.01) *H01L 31/20* (2006.01)
H01L 31/02 (2006.01) *H01L 27/142* (2014.01)
H01L 31/032 (2006.01)

(21) International Application Number:

PCT/US2012/059571

(22) International Filing Date:

10 October 2012 (10.10.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/275,243 17 October 2011 (17.10.2011) US

(71) Applicant: SOLOPOWER, INC. [US/US]; 5981 Optical Court, San Jose, CA 95138 (US).

(72) Inventors: PINARBASI, Mustafa; 16620 Dale Court, Morgan Hill, CA 95037 (US). ZOLLA, Howard; 163 Eastridge Drive, Los Angeles, CA 95032 (US). ER-DEMIL, Serkan; 327 Vista Roma Way, San Jose, CA 95136 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,

ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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

27 March 2014

(54) Title: TRACKING SYSTEM AND METHOD FOR SOLAR CELL MANUFACTURING

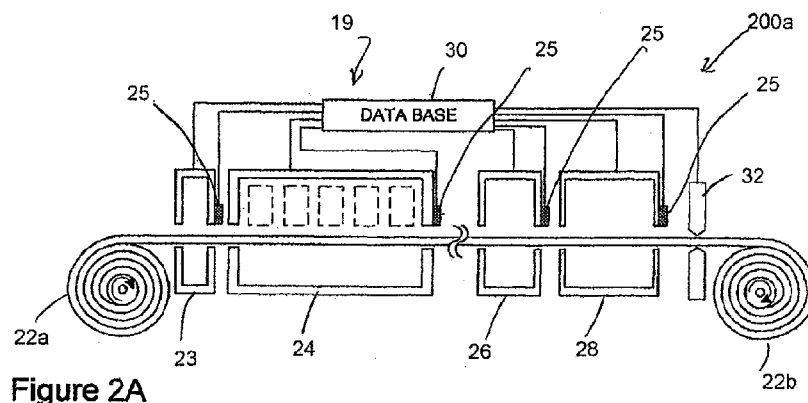


Figure 2A

(57) Abstract: A system and method of manufacturing solar panels whereby parameters about how each cell, each array and each panel are recorded in a database or electronic memory. The cells, arrays and panels are also provided an identification, such as a bar code, to allow for subsequent retrieval of the parameters. The electronic memory is arranged so that different cells, arrays and panels that share the same parameters can be identified.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/059571

A. CLASSIFICATION OF SUBJECT MATTER INV. H01L31/0749 H01L31/02 H01L31/032 H01L31/20 H01L27/142 ADD.		
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) 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 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	WO 2010/085496 A1 (ATANASOFF GEORGE [US]) 29 July 2010 (2010-07-29)	1-7
Y	page 1, lines 10-13 page 2, lines 9-24 page 7, lines 5-8, 25-28 page 8, lines 5-28 page 10, lines 15-17 page 14, lines 16-20 page 17, lines 16-26 page 18, line 4 - page 20, lines 3, 11-24 page 29, lines 23-29 page 35, lines 3-10 page 31, lines 26-29 page 37, lines 4-10 page 45, lines 11-27 page 40, lines 7-15, 27-29 page 41, line 29 - page 43, line 14 ----- -/--	2,3
☒ 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	Date of mailing of the international search report	
28 October 2013	07/02/2014	
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Cichos, Anna	

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2012/059571

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2008/041439 A1 (ACHUTHARAMAN VEDAPURAM S [US] ET AL) 21 February 2008 (2008-02-21) paragraphs [0005] - [0007], [0027] - [0042] -----	2,3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/059571

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2010085496 A1	29-07-2010	EP 2389459 A1	30-11-2011
		US 2010331351 A1	30-12-2010
		US 2011276166 A1	10-11-2011
		WO 2010085496 A1	29-07-2010
		WO 2010090860 A2	12-08-2010

US 2008041439 A1	21-02-2008	US 2008041439 A1	21-02-2008
		US 2011259391 A1	27-10-2011

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-7

Method of manufacturing solar cell

2. claims: 8-20

Method of manufacturing solar cell panels

3. claims: 21-47

Method of roll-to-roll forming a plurality of thin films on a continuous flexible substrate to manufacture solar cells and identifying each manufactured solar cell

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/059571

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.:
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.:

1-7

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.