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- (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.

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(15) **Information about Correction:**

Previous Correction:
see Notice of 14 November 2013

(54) **Title:** MULTI-THERMAL STORAGE UNIT SYSTEMS, FLUID FLOW CONTROL DEVICES, AND LOW PRESSURE SOLAR RECEIVERS FOR SOLAR POWER SYSTEMS, AND RELATED COMPONENTS AND USES THEREOF

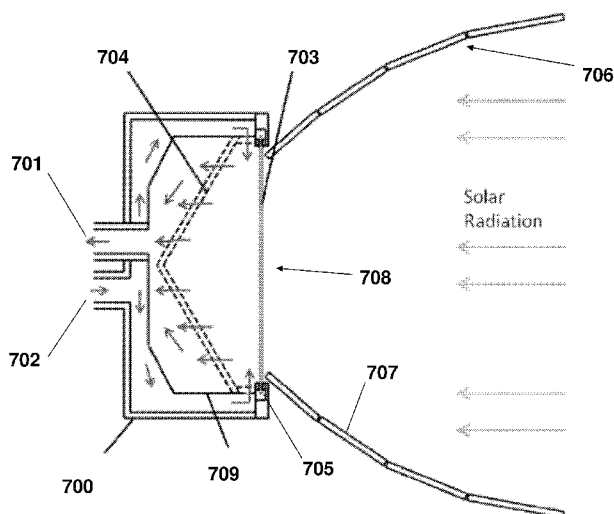


FIG. 7A

(57) **Abstract:** Inventive concentrated solar power systems using solar receivers, and related devices and methods, are generally described.

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2013/031627

A. CLASSIFICATION OF SUBJECT MATTER

INV. F24J2/07

ADD. F24J2/50

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)

F24J

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 5 894 838 A (YOGEV AMNON [IL]) 20 April 1999 (1999-04-20) claim 1; figures 1,2 -----	1,2,5
X	EP 1 610 073 A2 (DEUTSCH ZENTR LUFT & RAUMFAHRT [DE]) 28 December 2005 (2005-12-28)	6-9,11
Y	paragraph [0063]; figure 1 paragraph [0067] paragraph [0075] column 9, line 53 - line 54 column 16, paragraph 110; figures 4,5 column 16, paragraph 111; figures 4,5 paragraph [0079]; figure 1 ----- -/-	10



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

4 July 2013

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2013/031627

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 2006/174866 A1 (ZHANG YAOMING [CN]) 10 August 2006 (2006-08-10) paragraph [0009]; figure 1 paragraph [0013]; figure 1 -----	6
X	US 4 135 489 A (JARVINEN PHILIP) 23 January 1979 (1979-01-23) column 5, line 17 - line 28; figure 2 -----	6,7
Y	DE 10 2004 026517 B3 (DEUTSCH ZENTR LUFT & RAUMFAHRT [DE]) 6 October 2005 (2005-10-06) paragraph [0052]; figures 2,3 -----	10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/031627

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.:

1-11

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: 1-11

Solar receiver

2. claims: 12-25

Power generating system

3. claims: 26-36

Fluid control device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2013/031627

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5894838	A	20-04-1999	NONE
EP 1610073	A2	28-12-2005	DE 102004031917 A1 12-01-2006 EP 1610073 A2 28-12-2005
US 2006174866	A1	10-08-2006	NONE
US 4135489	A	23-01-1979	NONE
DE 102004026517 B3	06-10-2005	DE 102004026517 B3 06-10-2005 EP 1598608 A2 23-11-2005	