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Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	06/16/2015	9057546	6445-001	1456

24112 7590 05/27/2015
COATS & BENNETT, PLLC
1400 Crescent Green, Suite 300
Cary, NC 27518

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 910 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Rovshan Sade, Raleigh, NC;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

IR103 (Rev. 10/09)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
 or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

24112 7590 641/7/2015
COATS & BENNETT, PLLC
 1400 Crescent Green, Suite 300
 Cary, NC 27518

Certificate of Mailing or Transmission
 I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456

TITLE OF INVENTION: SOLAR TRACKER

APPL. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	07/17/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
SAVANI, AVINASH A	3749	126-600000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (for Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" indication form PTO/SB/47, Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Coats and Bennett, PLLC

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 18-1167 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
☐ Applicant asserting small entity status. See 37 CFR 1.27
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature David E. Bennett
 Typed or printed name David E. Bennett

Date 5/13/2015
 Registration No. 32,194

Page 2 of 3

Electronic Patent Application Fee Transmittal				
Application Number:		12830907		
Filing Date:		06-Jul-2010		
Title of Invention:		SOLAR TRACKER		
First Named Inventor/Applicant Name:		Rovshan Sade		
Filer:		David E. Bennett/Donna Donovan		
Attorney Docket Number:		6445-001		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	2501	1	480	480

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				480

Electronic Acknowledgement Receipt	
EFS ID:	22334691
Application Number:	12830907
International Application Number:	
Confirmation Number:	1456
Title of Invention:	SOLAR TRACKER
First Named Inventor/Applicant Name:	Rovshan Sade
Customer Number:	24112
Filer:	David E. Bennett/Donna Donovan
Filer Authorized By:	David E. Bennett
Attorney Docket Number:	6445-001
Receipt Date:	13-MAY-2015
Filing Date:	06-JUL-2010
Time Stamp:	14:01:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	\$480
RAM confirmation Number	242
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Issue_Fee_Transmittal.pdf	528832 83b602cab226b50fc00f7853040cab617d0264a8	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30066 09e41b66d7514a209664da045668e31e65cdf4fc	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			558898		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



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UNITED STATES DEPARTMENT OF COMMERCE
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NOTICE OF ALLOWANCE AND FEE(S) DUE

24112 7590 04/17/2015
COATS & BENNETT, PLLC
1400 Crescent Green, Suite 300
Cary, NC 27518

EXAMINER

SAVANI, AVINASH A

ART UNIT

PAPER NUMBER

3749

DATE MAILED: 04/17/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456

TITLE OF INVENTION: SOLAR TRACKER

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	07/17/2015

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

24112 7590 04/17/2015
COATS & BENNETT, PLLC
1400 Crescent Green, Suite 300
Cary, NC 27518

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456

TITLE OF INVENTION: SOLAR TRACKER

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EXAMINER	ART UNIT	CLASS-SUBCLASS
SAVANI, AVINASH A	3749	126-600000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

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NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

Page 2 of 3

PTOL-85 Part B (10-13) Approved for use through 10/31/2013.

OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

FIRST SOLAR EX1011

Page 8 of 197



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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456
24112 7590 04/17/2015 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER SAVANI, AVINASH A	
			ART UNIT	PAPER NUMBER
			3749	

DATE MAILED: 04/17/2015

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 12/830,907	Applicant(s) SADE, ROVSHAN	
	Examiner AVINASH SAVANI	Art Unit 3749	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/27/2015.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1,4,6,7,18 and 19. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
Certified copies:
a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)	5. ☐ Examiner's Amendment/Comment
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	7. ☐ Other _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.	

/AVINASH SAVANI/ Primary Examiner, Art Unit 3749	
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1. The present application is being examined under the pre-AIA first to invent provisions.

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance: The invention, Solar tracker, is in the field of solar tracking supports for a plurality of solar panels. Prior art in a similar field of endeavor belong to Strahm [8492645] and Bottger et al [6105316]. Strahm teaches a support 43 for a motor 38, which differs from the claimed invention in that the application has a mounting fork which is rotatable and has a slot for the support spine. For these reasons, the invention is unique and therefore allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AVINASH SAVANI whose telephone number is (571)270-3762. The examiner can normally be reached on Monday- Thursday, 7am-5pm: EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AVINASH SAVANI/
Primary Examiner, Art Unit 3749

4/3/2015

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	66	(solar same track\$3) and (slot same (support or frame))	FPRS; EPO; JPO; DERWENT	ADJ	ON	2015/04/03 06:54
S1	1	12/830907	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 09:11
S2	17	("2061336" "20090134291" "4063963" "6105316" "20090293861" "4178913" "5633891" "6494445" "7898212" "5632480" "6563040" "6616278" "20040195487" "4226256" "5916047" "7884279").PN.	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:36
S3	45	("4025786" "4063963").PN. OR ("4226256").URPN.	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:38
S4	2627	solar and (collapsible or fold\$4) and (ballast or pan)	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:46
S5	1696	solar and (collapsible or fold\$4) and (ballast or pan) and (frame or support\$3) and (rotat\$4 or track\$3)	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:47
S6	67	solar and ((collapsible or fold\$4) same (ballast or pan) same (frame or support\$3) same (rotat\$4 or track\$3))	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:48
S7	161	solar and ((collapsible or fold\$4) same (frame or support\$3) same (rotat\$4 or track\$3)) and (ballast or pan)	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:50
S8	588	solar and (collapsible or fold\$4) and (ballast or pan) and (frame or support\$3) and (rotat\$4 or track\$3) and actuator	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 20:33
S9	38	("1888620" "20040112373" "20050161073" "20070158978" "20070215199" "20070277868" "20080264467" "20100071684" "3466198" "4097310" "4226256" "4261329" "4421943" "4452234" "4611090" "4644933" "4832001" "5542203" "6058930" "6201181" "6396239" "6624350" "6737573" "6809251" "6848442" "6960717" "7202457" "7230819" "7331750" "7464703" "D560606").PN. OR ("8492645").URPN.	US- PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 20:46

file:///C:/Users/asavani/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[4/3/2015 7:11:55 AM]

EAST Search History

S10	355	solar and ((collapsible or fold\$4) same (ballast or pan))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/07 10:30
S11	103	solar same ((collapsible or fold\$4) same (ballast or pan))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/07 10:30
S12	122	(solar same heat\$3) and ((collapsible or fold\$4) same (ballast or pan))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/07 11:16
S13	3	(solar same track\$3) and ((support or frame) same (fork or prong) same slot same (beam or spine))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/04/02 11:47
S14	102	(solar same track\$3) and ((fork\$3 or prong) same (support or frame))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/04/02 11:56
S15	11	("2460482" "3977773" "3998206" "4111184" "4171876" "4190766").PN. OR ("4342501").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/04/02 12:05
S16	20	(solar same track\$3) and ((fork\$3 or prong) same (support or frame))	FPRS; EPO; JPO; DERWENT	ADJ	ON	2015/04/02 12:06
S18	648	(solar same track\$3) and (slot same (support or frame))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/04/02 12:06
S19	89	(solar same track\$3) and ((slot same (support or frame)) same pivot\$4)	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/04/02 12:06

EAST Search History (Interference)

< This search history is empty >

4/ 3/ 2015 7:11:51 AM**C:\Users\asavani\Documents\EAST\Workspaces\12830907SlrTrck_InheritJCH.wsp**

file:///C:/Users/asavani/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[4/3/2015 7:11:55 AM]

Issue Classification 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner AVINASH SAVANI	Art Unit 3749

CPC						
Symbol				Type	Version	
F24J	2	5413		F	2013-01-01	
Y02B	10	20		A	2013-01-01	
Y02E	10	47		A	2013-01-01	

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	6	
/AVINASH SAVANI/ Primary Examiner Art Unit 3749	04/03/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner AVINASH SAVANI	Art Unit 3749

US ORIGINAL CLASSIFICATION						INTERNATIONAL CLASSIFICATION									
CLASS			SUBCLASS			CLAIMED					NON-CLAIMED				
126			600												
CROSS REFERENCE(S)															
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)														
126	569														

NONE		Total Claims Allowed:	
		6	
(Assistant Examiner)	(Date)		
/AVINASH SAVANI/ Primary Examiner Art Unit 3749	04/03/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner AVINASH SAVANI	Art Unit 3749

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		17												
	2		18												
	3		19												
	4														
	5														
	6														
	7														
	8														
	9														
	10														
	11														
	12														
	13														
	14														
	15														
	16														

NONE		Total Claims Allowed:	
(Assistant Examiner)		6	
(Date)			
/AVINASH SAVANI/ Primary Examiner Art Unit 3749	04/03/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Search Notes 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner Avinash Savani	Art Unit 3749

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
126	569, 600	11/5/12-11/8/12	JCH
136	245	11/5/12-11/8/12	JCH
248	461, 505, 150, 165, 688, 685, 136	11/5/12-11/8/12	JCH
	Updated all	07/11/2013	JCH
	Updated All	02/10/2014	JCH

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor name search, consulted Primary Examiner Avinash Savani, east text (attached), class searches, fwd/bkwd searches	11/5/12-11/8/12	JCH
Updated all	07/11/2013	JCH
Updated all	02/10/2014	JCH
see EAST search	1/10/2015, 4/3/2015	AAS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	see EAST L1, L3	4/15/2015	AAS

	/AVINASH SAVANI/ Primary Examiner.Art Unit 3749
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Rovshan Sade	)	
	)	
Serial No.: 12/830,907	)	
	)	
Filed: July 6, 2010	)	Examiner: Avinash A. Savani
	)	
For: Solar Tracker	)	Group Art Unit: 3749
	)	
Docket No: 6445-001	)	Confirmation No.: 1456
	)	
	)	
	)	
	)	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

This paper is being filed in response to the Office Action mailed January 14, 2015, having a reply due date of April 14, 2015. Reconsideration is respectfully requested in light of the amendments and/or remarks below. The Office is hereby authorized to charge any fees required for entry of this paper to Deposit Account 18-1167.

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A solar tracker comprising:
 - a base forming an open pan ~~and~~ for containing a ballast material;
 - ~~a ballast material contained in the open pan for~~
 - a support frame mounted to said base;
 - a panel assembly ~~rotatably mounted to said support frame, said panel assembly~~
 - ~~including comprising:~~
 - a plurality of solar panels;
 - a central spine rotatably mounted to the support frame; and
 - a plurality of panel carriers extending outwardly from said spine for supporting
 - said solar panels;
 - a mounting assembly for rotatably mounting the panel assembly to the support frame,
 - said mounting assembly comprising:
 - a mounting fork pivotally connected to said support frame; and
 - a slot in said mounting fork configured to receive the spine of the panel assembly;
 - and
 - an actuator assembly for rotating the panel assembly to track the movement of the sun.
2. (Canceled)
3. (Canceled)

4. (Currently amended) The solar tracker of claim ~~3~~ 1 wherein panel carriers are removably connected to the spine and are configured to fit inside said closed compartment when said base is in the storage position.
5. (Canceled)
6. (Previously presented) The solar tracker assembly of claim 1 wherein the support frame includes two spaced end frames configured to be removably connected at respective ends of the base when the base is in the deployed position.
7. (Original) The solar tracker of claim 6 wherein the support frame includes two or more frame members that can be disassembled and placed inside said compartment of said base when said base is in the storage position.
- 8 - 17. (Canceled)
18. (New) A solar tracker comprising:
a support frame;
a panel assembly rotatably mounted to the support frame for supporting one or more solar panels, said panel assembly comprising a central spine and a plurality of panel carriers extending outwardly from said spine;
a mounting assembly for rotatably mounting the panel assembly to the support frame, the mounting assembly comprising a mounting member rotatably connected to

the support frame and a slot in said mounting member configured to receive the spine of the panel assembly; and
an actuator assembly for rotating the panel assembly to track the movement of the sun.

19. (New) The solar tracker of claim 18 wherein the panel assembly further comprises one or more solar panels mounted to the panel carriers.

REMARKS

In response to the official Office Action dated January 14, 2015, applicant has amended claims 1 and 4. Claims 3, 5 and 8-17 have been cancelled. New claims 18 and 19 have been added. Applicant respectfully submits that the claims as presently presented are allowable over the prior art and reconsideration of the application is therefore respectfully requested.

The Examiner objected to claim 12as having an incorrect identifier. Claim 12 has been canceled rendering the objection to claim 12 moot.

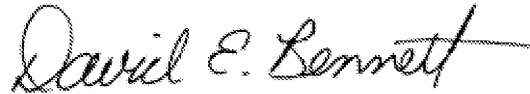
Claim 1 was rejected under 35 U.S.C. §103 as being unpatentable over Strahm (US 8,492,645) in view of Bottger, et al (US 6,105,316). Claim 1 has been amended to incorporate the limitations of claims 3 and 5. In particular, amended claim 1 recites that the panel assembly includes a central spine and a plurality of panel carriers extending outwardly from the spine. Amended claim 1 further recites that the mounting assembly includes a mounting fork pivotally connected to the support frame and a slot formed in the mounting fork. These features are not found in the prior art cited by the Examiner. Further, the Examiner indicated that claim 5 recited allowable subject matter. Accordingly, it is respectfully submitted that amended claim 1 is allowable.

Independent claim 18 is similar in scope to claim 1, with the exception of the base. Claim 18 recites a panel assembly including a central spine and a plurality of panel carriers extending outwardly from the spine. Claim 18 further recites a mounting assembly including a mounting member rotatably connected to the support frame and a slot formed in the mounting member that is configured to receive the spine of the panel assembly. These features are not disclosed in the prior art cited by the Examiner. Accordingly, it is believed that claim 18 is allowable.

The remaining claims all depend from independent claims 1 and 18 and are therefore believed to be allowable for the same reasons as claims 1 and 18.

For the foregoing reasons, it is respectfully submitted that the application is in condition for allowance and notice to such effect is respectfully requested.

Respectfully submitted,
COATS & BENNETT, P.L.L.C.

A handwritten signature in black ink that reads "David E. Bennett". The signature is written in a cursive style with a long horizontal stroke at the end.

Dated: March 27, 2015

David E. Bennett
Registration No.: 32,194
Telephone: (919) 854-1844

Electronic Acknowledgement Receipt	
EFS ID:	21898045
Application Number:	12830907
International Application Number:	
Confirmation Number:	1456
Title of Invention:	Solar Tracker
First Named Inventor/Applicant Name:	Rovshan Sade
Customer Number:	24112
Filer:	David E. Bennett/Donna Donovan
Filer Authorized By:	David E. Bennett
Attorney Docket Number:	6445-001
Receipt Date:	27-MAR-2015
Filing Date:	06-JUL-2010
Time Stamp:	12:36:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		Response_to_Non-Final_OA.pdf	29705 170d84f9b94d480d40708aacabb65f41efafdd725f	yes	6

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	4
	Applicant Arguments/Remarks Made in an Amendment	5	6
Warnings:			
Information:			
Total Files Size (in bytes):		29705	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.			

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 12/830,907		Filing Date 07/06/2010		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED – PART I									
(Column 1)		(Column 2)							
FOR	NUMBER FILED	NUMBER EXTRA				RATE (\$)	FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A				N/A			
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A				N/A			
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A				N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*				X \$	=		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*				X \$	=		
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL			
APPLICATION AS AMENDED – PART II									
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	03/27/2015	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 6	Minus	** 20	= 0	x \$40 =		0	
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	x \$210 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		0	
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$		=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$		=	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456
24112 7590 01/14/2015 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER SAVANI, AVINASH A	
			ART UNIT	PAPER NUMBER
			3749	
			MAIL DATE	DELIVERY MODE
			01/14/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/830,907	Applicant(s) SADE, ROVSHAN	
	Examiner AVINASH SAVANI	Art Unit 3749	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 9/8/2014.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1, 3, 6, 8-10, 12, 13 and 17 is/are rejected.

8) ☒ Claim(s) 4, 5, 7, 11 and 14-16 is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some** c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.

4) ☐ Other: ____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Status of Claims

1. The following action is in response to the applicant's Amendment dated 9/8/2014, that was in response to the Office action completed by Examiner John Hailey dated 4/8/2014. Claims 1 and 3-17 are pending, claims 1, 3, 6 and 12 have been amended, while claim 2 is cancelled.

Claim Objections

2. Claim 12 is objected to because of the following informalities: The status identifier is incorrect, i.e. currently amended should be the identifier. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.
4. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating

obviousness or nonobviousness.

6. Claims 1, 3, 6, 8-10, 12, 13 and 17 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Strahm [8492645], further in view of Bottger et al [6105316].

7. With respect to claim 1, Strahm discloses: A solar tracker comprising: a base (23) forming an open pan and containing a ballast material; a panel assembly (31) rotatably mounted to said support frame (40, 41), said panel assembly including a plurality of solar panels; and an actuator assembly (48) for rotating the panel assembly to track the movement of the sun [see FIGs 8-12, col 3, line 5-col 4, line 67]; however does not disclose the ballast material.

8. Bottger makes up for the deficiencies by teaching a ballast material (22) contained in the open pan (20) for a support frame mounted to said base [see FIG 3, col 3, line 39-47]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Strahm with the teachings of Bottger

because Bottger provides a ballast material in a base pan in order to provide more stability.

9. Regarding claims 3, 6 and 8, Strahm teaches the invention as substantially claimed. Strahm shows: a central spine, spaced end frames, and an inclined rotational axis [see FIG 14]

10. With respect to claim 9, Strahm discloses: A solar system comprising: a base (23) having first and second section configurable in a deployed position and a storage position, said base forming an open pan for containing a ballast material in the deployed position and forming a carrier having an internal compartment in the storage position; a support frame (40, 41) removably mounted to said base, said support frame including one or more frame members configured to be contained in the internal compartment of the base when the base is configured in a storage position; and a panel assembly (31) removably mounted to said support frame, said panel assembly including an array of solar panels [see FIGs 8-12, col 3, line 5-col 4, line 67]; however does not disclose the ballast material.

11. Bottger makes up for the deficiencies by teaching a ballast material (22) contained in the open pan (20) for a support frame mounted to said base [see FIG 3, col 3, line 39-47]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Strahm with the teachings of Bottger because Bottger provides a ballast material in a base pan in order to provide more stability.

12. Regarding claim 10, Strahm teaches the invention as substantially claimed.

Strahm shows: a central spine, spaced end frames, and an inclined rotational axis [see FIG 14]

13. With respect to claim 12, Strahm discloses: A solar system comprising: a base (22) comprising one or more base beams that rest on an underlying support surface; a support frame (40, 41) mounted to said base; a panel assembly (31) mounted to said support frame, said panel assembly including a plurality of solar panels; and one or more ballast containers configured to straddle at least one of the base beams for containing a ballast material to hold said solar tracker in place, wherein the ballast containers comprise a bottom, side walls and an open top, and wherein the bottom has a channel formed therein to allow passage of one of said base beams through the ballast container [see FIGs 8-12, col 3, line 5-col 4, line 67]; however does not disclose the ballast material.

14. Bottger makes up for the deficiencies by teaching a ballast material (22) contained in the open pan (20) for a support frame mounted to said base [see FIG 3, col 3, line 39-47]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the invention of Strahm with the teachings of Bottger because Bottger provides a ballast material in a base pan in order to provide more stability.

15. Regarding claims 13 and 17, Strahm teaches the invention as substantially claimed. Strahm shows: a central spine, spaced end frames, and an inclined rotational axis [see FIG 14]

Allowable Subject Matter

16. Claims 4, 5, 7, 11 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AVINASH SAVANI whose telephone number is (571)270-3762. The examiner can normally be reached on Monday- Thursday, 7am-5pm: EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AVINASH SAVANI/

Application/Control Number: 12/830,907
Art Unit: 3749

Page 7

Primary Examiner, Art Unit 3749

1/10/2015

Notice of References Cited	Application/Control No. 12/830,907		Applicant(s)/Patent Under Reexamination SADE, ROVSHAN	
	Examiner AVINASH SAVANI		Art Unit 3749	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2,859,745 A	11-1958	VON BRUDERSDORFF LUIS	126/681
*	B	US-3,106,201 A	10-1963	STEINBERG HYMAN A	126/682
*	C	US-4,203,427 A	05-1980	Way, Jr., Lee V.	126/681
*	D	US-4,644,933 A	02-1987	Gregory, Samuel T.	126/601
*	E	US-2010/0071684 A1	03-2010	COWAN et al.	126/605
*	F	US-2010/0313878 A1	12-2010	Essig et al.	126/681
*	G	US-8,492,645 B1	07-2013	Strahm, Michael	136/244
*	H	US-8,707,949 B2	04-2014	Hoffman, James Theodore	126/600
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner Avinash Savani	Art Unit 3749

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
126	569, 600	11/5/12-11/8/12	JCH
136	245	11/5/12-11/8/12	JCH
248	461, 505, 150, 165, 688, 685, 136	11/5/12-11/8/12	JCH
	Updated all	07/11/2013	JCH
	Updated All	02/10/2014	JCH

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor name search, consulted Primary Examiner Avinash Savani, east text (attached), class searches, fwd/bkwd searches	11/5/12-11/8/12	JCH
Updated all	07/11/2013	JCH
Updated all	02/10/2014	JCH
see EAST search	1/10/2015	AAS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/AVINASH SAVANI/ Primary Examiner.Art Unit 3749
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	12/830907	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 09:11
S2	17	("2061336" "20090134291" "4063963" "6105316" "20090293861" "4178913" "5633891" "6494445" "7898212" "5632480" "6563040" "6616278" "20040195487" "4226256" "5916047" "7884279").PN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:36
S3	45	("4025786" "4063963").PN. OR ("4226256").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:38
S4	2627	solar and (collapsible or fold\$4) and (ballast or pan)	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:46
S5	1696	solar and (collapsible or fold\$4) and (ballast or pan) and (frame or support\$3) and (rotat\$4 or track\$3)	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:47
S6	67	solar and ((collapsible or fold\$4) same (ballast or pan) same (frame or support\$3) same (rotat\$4 or track\$3))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:48
S7	161	solar and ((collapsible or fold\$4) same (frame or support\$3) same (rotat\$4 or track\$3)) and (ballast or pan)	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 14:50
S8	588	solar and (collapsible or fold\$4) and (ballast or pan) and (frame or support\$3) and (rotat\$4 or track\$3) and actuator	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 20:33
S9	38	("1888620" "20040112373" "20050161073" "20070158978" "20070215199" "20070277868" "20080264467" "20100071684" "3466198" "4097310" "4226256" "4261329" "4421943" "4452234" "4611090" "4644933" "4832001" "5542203" "6058930" "6201181" "6396239" "6624350" "6737573" "6809251" "6848442" "6960717" "7202457" "7230819" "7331750" "7464703" "D560606").PN. OR ("8492645").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/06 20:46
S10	355	solar and ((collapsible or fold\$4) same (ballast or pan))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/07 10:30

file:///C:/Users/asavani/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[1/12/2015 10:37:18 AM]

EAST Search History

S11	103	solar same ((collapsible or fold\$4) same (ballast or pan))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/07 10:30
S12	122	(solar same heat\$3) and ((collapsible or fold\$4) same (ballast or pan))	US-PGPUB; USPAT; USOCR	ADJ	ON	2015/01/07 11:16

EAST Search History (Interference)

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1/ 12/ 2015 10:37:16 AM

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file:///C:/Users/asavani/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[1/12/2015 10:37:18 AM]

<i>Index of Claims</i> 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner JOHN C HAILEY III	Art Unit 3749

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant						☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE									
Final	Original	11/13/2012	07/11/2013	03/26/2014	01/12/2015						
	1	✓	✓	✓	✓						
	2	✓	✓	✓	-						
	3	✓	✓	✓	✓						
	4	✓	✓	✓	O						
	5	✓	✓	✓	O						
	6	✓	✓	✓	✓						
	7	✓	✓	✓	O						
	8	✓	✓	✓	✓						
	9	✓	✓	✓	✓						
	10	✓	✓	✓	✓						
	11	✓	✓	✓	O						
	12	✓	✓	✓	✓						
	13	✓	✓	✓	✓						
	14	✓	✓	✓	O						
	15	✓	✓	✓	O						
	16	✓	✓	✓	O						
	17	✓	✓	✓	✓						

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of **Rovshan Sade**

Serial No.: **12/830,907**

Filed: **July 6, 2010**

For: **Solar Tracker**

Docket No: **6445-001**

Examiner: Mr. John C. Hailey, III

Group Art Unit: 3749

Confirmation No.: 1456

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

This paper is being filed in response to the Office Action mailed April 8, 2014 having a reply due date of July 8, 2014. Reconsideration is respectfully requested in light of the amendments and remarks below. The Office is hereby authorized to charge any fees required for entry of this paper to Deposit Account 18-1167.

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A solar tracker comprising:
 - a base forming an open pan ~~for~~ and containing a ballast material;
 - a ballast material contained in the open pan for
 - a support frame mounted to said base;
 - a panel assembly rotatably mounted to said support frame, said panel assembly including a plurality of solar panels; and
 - an actuator assembly for rotating the panel assembly to track the movement of the sun.
2. (Canceled)
3. (Currently amended) The solar tracker of claim 2 1 wherein the panel assembly comprises:
 - a central spine rotatably mounted to the support frame; and
 - a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.
4. (Original) The solar tracker of claim 3 wherein panel carriers are removably connected to the spine and are configured to fit inside said closed compartment when said base is in the storage position.
5. (Original) The solar tracker assembly of claim 3 including a mounting assembly for rotatably mounting the panel assembly to the support frame, said mounting assembly comprising:

a mounting fork configured to be pivotally connected to said support frame; and
a slot in said mounting fork configured to receive the spine of the panel assembly.

6. (Currently amended) The solar tracker assembly of claim 2 1 wherein the support frame includes two spaced end frames configured to be removably connected at respective ends of the base when the base is in the deployed position.

7. (Original) The solar tracker of claim 6 wherein the support frame includes two or more frame members that can be disassembled and placed inside said compartment of said base when said base is in the storage position.

8. (Original) The solar tracker of claim 1 wherein the panel assembly is mounted to rotate about an inclined rotational axis lying in a plane perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun.

9. (Previously presented) A solar system comprising:
a base having first and second section configurable in a deployed position and a storage position, said base forming an open pan for containing a ballast material in the deployed position and forming a carrier having an internal compartment in the storage position;
a support frame removably mounted to said base, said support frame including one or more frame members configured to be contained in the internal compartment of the base when the base is configured in a storage position; and

a panel assembly removably mounted to said support frame, said panel assembly including an array of solar panels.

10. (Original) The solar system of claim 9 wherein the panel assembly comprises a central spine rotatably mounted to the support frame; and a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.

11. (Original) The solar system of claim 10 wherein panel carriers are removably connected to the spine and are configured to fit inside said internal compartment of said base when said base is in the storage position.

12. (Original) A solar system comprising:
a base comprising one or more base beams that rest on an underlying support surface;
a support frame mounted to said base;
a panel assembly mounted to said support frame, said panel assembly including a plurality of solar panels; and
one or more ballast containers configured to straddle at least one of the base beams for containing a ballast material to hold said solar tracker in place, wherein the ballast containers comprise a bottom, side walls and an open top, and wherein the bottom has a channel formed therein to allow passage of one of said base beams through the ballast container.

13. (Original) The solar system of claim 12 said panel assembly is rotatably mounted to said frame and further comprising an actuator assembly for rotating the panel assembly to track the movement of the sun.

14. (Original) The solar tracker of claim 13 wherein the panel assembly comprises a central spine rotatably mounted to the support frame; and a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.

15. (Original) The solar tracker assembly of claim 14 including a mounting assembly for rotatably mounting the panel assembly to the support frame, said mounting assembly comprising:

- a mounting for configured to be pivotally connected to said support frame; and
- a slot in said mounting fork configured to receive the spine of the panel assembly.

16. (Original) The solar tracker assembly of claim 15 wherein the support frame includes two spaced end frames configured to be removably connected at respective ends of the base when the base is in the deployed position.

17. (Original) The solar tracker of claim 12 wherein the panel assembly is mounted to rotate about an inclined rotational axis lying in a plane perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun.

REMARKS

In response to the Examiner's Office Action, claims 1, 3, 6 and 12 have been amended. Claim 2 has been canceled. Reconsideration of this application in light of these amendments and the following remarks is respectfully requested.

The claimed invention relates to a free standing solar tracker that can be used for both residential and commercial applications. The solar tracker comprises a base, a support frame, a panel assembly including one or more solar panels, and an actuator to rotate the solar panel to track the movement of the sun. The solar tracker is designed to be free-standing and requires no foundation. When the solar tracker is deployed, the base forms a pan to contain a ballast material for holding the base in place. The free-standing support enables the solar tracker to be deployed in any location with adequate exposure to the sun without the need for a foundation or other support structure already in place.

Claim 1 is directed to a solar tracker having a base forming an open pan for containing a ballast material. Claim 1 has been rejected under 35 U.S.C. §103(a) as being obvious over Benn (US 7,898,212) in view of Gohn (US 6,616,278). Claim 1 has been amended to state that the base forms an open pan and contains a ballast material. Applicant respectfully submits that Benn and Gohn do not teach this limitation of claim 1 and that there is no rational basis to combine the teachings of Benn and Gohn as suggested by the Examiner.

Benn discloses a portable solar generator including a solar panel mounted atop a battery container. The battery container includes four wheels to allow positioning of the solar panel. As acknowledged by the Examiner, Benn does not disclose a base forming an open pan. Nor does Benn disclose a ballast material as recited in claim 1.

Gohn discloses a portable eye examination device with a carrying case. The cover of the carrying case may be used as a base to support the eye examination device. The Examiner

apparently equates the carrying case in Gohnno with the claimed base. However, the carrying case does not form an open pan when the eye examination device is in use as recited in claim 1. However, the carrying case does not form an open pan in the deployed position. Rather, the eye examination device mounts to the cover of the carrying case in the deployed position. Thus, the carrying case appears to be closed in the deployed position. Further, the case does not contain a ballast material as recited in claim 1. Thus, the combination of Benn and Gohnno does not disclose all of the limitations of claim 1.

Further, it is submitted that there is no rational basis for combining Benn and Gohnno. Gohnno relates to a portable carrying case for an eye examination device. The subject matter in Gohnno is not in the same field of endeavor as Benn and is not related to the particular problem solved by the claimed invention, which is to provide a secure support for the solar panel that can withstand high weather conditions. Gohnno does not appear to be relevant prior art and is not relevant to the particular problem solved by the invention. Thus, there is no rational reason to explain why a person skilled would combine Benn and Gohnno in the manner suggested by the Examiner. Accordingly, it is submitted that claim 1 is patentable over Benn and Gohnno.

Claim 9 is directed to a solar system comprising a base, a support frame removably mounted to the base, and a panel assembly removably mounted to the support frame. The panel assembly comprises an array of solar panels. The base comprises first and second sections configurable in a deployed position and a storage position. In the deployed position, the base forms an open pan for containing a ballast material. In the storage position, the base forms a carrier having an internal compartment, which may contain components of the solar system. In this embodiment, the base provides a compact structure for storage and transportation of the solar system.

Claim 9 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Benn and Gohn. Applicant respectfully submits that the claimed invention is not disclosed or suggested by the combination of Benn and Gohn.

As discussed above, Benn discloses a portable solar panel mounted to a base containing a battery. The Examiner acknowledges that the base in Benn does not form a storage container for the solar panel in a storage position or form an open pan in a deployed position. For these limitations, the Examiner relies on Gohn.

Gohn discloses a portable eye examination device with a carrying case. The eye examination device can be stored inside the carrying cases when it is not in use. However, the carrying case does not form an open pan in the deployed position. Rather, the eye examination device mounts to the cover of the carrying case in the deployed position. Thus, the carrying case appears to be closed in the deployed position. Further, for reasons already discussed, it is submitted that there is no rational basis for combining Benn and Gohn. Accordingly, it is submitted that claim 9 is patentable over Benn and Gohn.

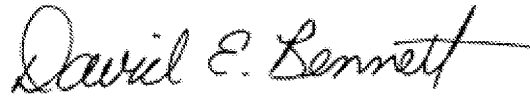
Claim 12 is directed to a solar system comprising a base that rests on an underlying support surface, a support frame mounted to the base, a panel assembly including a plurality of solar panels mounted to the support frame, and one or more ballast containers configured to straddle at least one of the base beams for containing a ballast material. Claim 12 has been rejected under 35 U.S.C. §103(a) as being obvious over Dold (US 7,884,279) in view of Harbaugh (US 2004/0195487). Claim 12 has been amended to state that the ballast containers comprise a bottom, side walls and an open top, and wherein the bottom has a channel formed therein to allow passage of one of said base beams through the ballast container. Applicant respectfully submits that neither Dold nor Harbaugh disclosed the claimed ballast container configured to straddle a base beam as recited in claim 12.

Dold discloses a solar tracker having a support frame, a panel assembly rotatably mounted to the support frame, and an actuator assembly for rotating the panel assembly to track the movement of the sun. The tracker in Dold is designed to withstand extreme weather conditions and high winds. Dold does not disclose ballast containers as recited in claim 12 that straddle frame members in the base of the solar tracker. Rather, Dold discloses a base comprising support beams (36,38) with posts (40) that extend into the ground.

Harbaugh discloses an umbrella stand having a base that contains a ballast material. The Examiner argues that Harbaugh teaches one or more ballast containers as recited in claim 12. However, the base in Harbaugh is very different than the ballast container as recited in claim 12. In particular, claim 12 recites that the ballast containers comprise a bottom having a channel formed therein to allow passage of one of said base beams through the ballast container. This feature of claim 12 is not disclosed by Harbaugh. Accordingly, it is respectfully submitted that claim 12 is patentable over Dold and Harbaugh.

For the forgoing reasons, it is submitted that this application is in condition for allowance.

Respectfully submitted,
COATS & BENNETT, P.L.L.C.



Dated: September 8, 2014

David E. Bennett
Registration No.: 32,194
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Electronic Patent Application Fee Transmittal				
Application Number:		12830907		
Filing Date:		06-Jul-2010		
Title of Invention:		Solar Tracker		
First Named Inventor/Applicant Name:		Rovshan Sade		
Filer:		David E. Bennett/Donna Donovan		
Attorney Docket Number:		6445-001		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with \$0 paid	2252	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				300

Electronic Acknowledgement Receipt	
EFS ID:	20069956
Application Number:	12830907
International Application Number:	
Confirmation Number:	1456
Title of Invention:	Solar Tracker
First Named Inventor/Applicant Name:	Rovshan Sade
Customer Number:	24112
Filer:	David E. Bennett/Donna Donovan
Filer Authorized By:	David E. Bennett
Attorney Docket Number:	6445-001
Receipt Date:	08-SEP-2014
Filing Date:	06-JUL-2010
Time Stamp:	12:06:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	\$ 300
RAM confirmation Number	9990
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1		Response_to_Office_Action.pdf	43867 0e81dbd1b21e74e1b2e96bc9043700bd51089bc0	yes	9
Multipart Description/PDF files in .zip description					
		Document Description	Start	End	
		Amendment/Req. Reconsideration-After Non-Final Reject	1	1	
		Claims	2	5	
		Applicant Arguments/Remarks Made in an Amendment	6	9	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	29727 35311581f2ea5b8e74c2efc9742a73a0519f374c	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			73594		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 12/830,907		Filing Date 07/06/2010		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED – PART I									
(Column 1)		(Column 2)							
FOR	NUMBER FILED	NUMBER EXTRA				RATE (\$)	FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A				N/A			
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A				N/A			
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A				N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =		*			X \$	=		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =		*			X \$	=		
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL			
APPLICATION AS AMENDED – PART II									
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	09/08/2014	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 16	Minus	** 20	= 0	X \$40 =		0	
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	X \$210 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		0	
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$		=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$		=	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456
24112 7590 04/08/2014 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER HAILEY III, JOHN C	
			ART UNIT	PAPER NUMBER
			3749	
			MAIL DATE	DELIVERY MODE
			04/08/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/830,907	Applicant(s) SADE, ROVSHAN	
	Examiner JOHN C. HAILEY III	Art Unit 3749	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 02/13/2014.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1-17 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☒ Claim(s) 1-17 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some** c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date 07/06/2010.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

4) ☐ Other: _____.

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Response to Arguments

2. Applicant's arguments with respect to claims 1-17 have been considered but are moot because the arguments do not apply to the current rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-11 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Benn et al. (US 7898212 B2) in view of Gohn et al. (US 6616278 B2).
5. Regarding claim 1, Benn teaches a solar tracker comprising:
 - a support frame (6, Fig. 1 and 4; Col. 2, Ln. 43-47) mounted to a base;
 - a panel assembly, said panel assembly including a plurality of solar panels (10, Fig. 1; Col. 2, Ln. 43-47); and
 - an actuator assembly (Col. 7, Ln. 41-53) for rotating the panel assembly to track the movement of the sun.

Benn does not teach a base forming an open pan. Gohn teaches a portable actuatable support structure comprising a base (1, Fig. 1 and 3; Col. 2, Ln. 64—Col. 3, Ln. 3 and Col. 4, Ln. 29-47) and a support frame (12, Fig. 3; Col. 3, Ln. 37-41). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the solar tracker of Benn with the base of Gohn in order to increase the portability of the solar tracker.

6. Regarding claim 2, Benn and Gohn teach the limitations of claim 1 as above. Gohn also teaches a base comprising first (1a, Fig. 1 and 3) and second (1b, Fig. 1 and 3) sections that are movable

Art Unit: 3749

between a storage position and deployed position, wherein the base forms said open pan in the deployed position capable of holding ballast material and forms a carrier in the storage position including a close compartment for containing disassembled components of a support frame and assembly (Col. 2, Ln. 64—Col. 3, Ln. 3 and Col. 4, Ln. 29-47).

7. Regarding claim 3, Benn and Gohno teach the limitations of claim 2 as above. Benn also teaches a panel assembly comprising central spine (70, Fig. 9; Col. 3, Ln. 40-49); and a plurality of panel carriers (64, Fig. 4; Col. 3, Ln. 40-49) extending outwardly from said spine for supporting said solar panels.

8. Regarding claim 4, Benn and Gohno teach the limitations of claim 4 as above. Benn also teaches panel carrier removably connected to the spine and capable of fitting inside a closed compartment when a base is in a storage position (Col. 3, Ln. 40-49). One skilled in the art would readily recognize that the panel carriers taught by Benn would be suitable for storage inside of the base taught by Gohno in place of the remainder of the structure taught by Gohno.

9. Regarding claim 6, Benn and Gohno teach the limitations of claim 2 as above. Gohno also teaches a support frame which includes two spaced end frames (207, Fig. 7; Col. 4, Ln. 30-47) configured to be removably connected at respective ends of the base when the base is in the deployed position.

10. Regarding claim 7, Benn and Gohno teach the limitations of claim 6 as above. Gohno also teaches a support frame which includes two frame members (207, Fig. 7; Col. 4, Ln. 30-47) that can be disassembled and placed inside said compartment of said base when said base is in the storage position.

11. Regarding claim 8, Benn and Gohno teach the limitations of claim 2 as above. Benn also teaches the panel assembly which is mounted to rotate about an inclined rotational axis lying in a plane perpendicular to a base such that the rotation of the panel assembly tracks changes in the azimuth of the sun (Col. 3, Ln. 25-37; Col. 7, Ln. 41-53; Wherein the rotational axis is the axis about which the solar panels (10) rotate when being deployed).

12. Regarding claim 9, Benn teaches a solar system comprising:

Art Unit: 3749

a support frame (6, Fig. 1 and 4; Col. 2, Ln. 43-47) removably mounted to a base, said support frame including one or more frame members capable of being contained in a base internal compartment; and

a panel assembly removably mounted to said support frame, said panel assembly including a plurality of solar panels (10, Fig. 1; Col. 2, Ln. 43-47).

Benn does not teach a base having first and second section, said base forming an open pan. Gohnno teaches a portable actuatable support structure comprising a base (1, Fig. 1 and 3; Col. 2, Ln. 64—Col. 3, Ln. 3 and Col. 4, Ln. 29-47) having first (1a) and second (1b) section configurable in a deployed position and a storage position, said base forming an open pan capable of containing a ballast material in the deployed position and forming a carrier having an internal compartment in the storage position.

13. Regarding claim 10, Benn and Gohnno teach the limitations of claim 9 as above. Benn also teaches a panel assembly comprising a central spine (70, Fig. 9; Col. 3, Ln. 40-49); and a plurality of panel carriers (64, Fig. 4; Col. 3, Ln. 40-49) extending outwardly from said spine for supporting said solar panels.

14. Regarding claim 11, Benn and Gohnno teach the limitations of claim 10 as above. Benn also teaches panel carrier removably connected to the spine and capable of fitting inside a closed compartment when a base is in a storage position (Col. 3, Ln. 40-49). One skilled in the art would readily recognize that the panel carriers taught by Benn would be suitable for storage inside of the base taught by Gohnno in place of the remainder of the structure taught by Gohnno.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benn and Gohnno as applied to claim 3 above, in further view of Bellis (US 6494445 B1)

16. Regarding claim 5, Benn and Gohnno teach the limitations of claim 3 as above. Benn also teaches a mounting assembly for rotatably mounting the panel assembly to the support frame, said mounting assembly comprising:

a mounting piece (62, Fig. 4; Col. 3, Ln. 33-37) configured to be pivotally connected to said support frame; and a region in said mounting piece configured to receive the spine of the panel assembly.

Art Unit: 3749

Benn and Gohn do not teach a mounting fork. Bellis teaches a mounting assembly comprising a mounting fork (14, Fig. 1) configured to be pivotally connected to a support frame; and a slot in said mounting fork configured to receive the element being supported (12, Fig. 1). It would have been obvious to one skilled in the art at the time of invention to combine the device taught by Benn with the mounting assembly taught by Bellis in order to make a solar tracker that may be more quickly and easily mounted and assembled.

17. Claims 12-14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold (US 7884279 B2) in view of Harbaugh (US 2004/0195487 A1).

18. Regarding claim 12, Dold teaches a solar system comprising a base comprising one or more base beams (36 and 38, Fig. 2; Col. 3, Ln. 38-41) that rest on an underlying support surface;

a support frame (30 and 32, Fig. 2; Col. 2, Ln. 48-52) mounted to said base; and

a panel assembly (10, Fig. 2; Col. 2, Ln. 41-43) mounted to said support frame, said panel

assembly including a plurality of solar panels (12, Fig. 2; Col. 2, Ln. 48-50).

Dold does not teach use of any separate ballast. Harbaugh teaches one or more ballast containers (100, Fig. 18; ¶0051) configured to straddle at least one beams for containing a ballast material to hold a solar tracker in place. It would have been obvious to one skilled in the art at the time of invention to combine the solar system taught by Dold with the base structures taught by Harbaugh in order to more securely hold the solar tracker.

19. Regarding claim 13, Dold and Harbaugh teach the limitations of claim 12 above. Dold also teaches a panel assembly that is rotatably mounted to said frame and further comprising an actuator assembly (22 and 24, Fig. 1; Col. 3, Ln. 5-12) for rotating the panel assembly to track the movement of the sun.

20. Regarding claim 14, Dold and Harbaugh teach the limitations of claim 13 above. Dold also teaches a panel assembly comprises a central spine (28a, Fig. 2; Col. 3, Ln. 17-24) rotatably mounted to the support frame; and a plurality of panel carriers (14, Fig. 2; Col. 3, Ln. 1-5) extending outwardly from said spine for supporting said solar panels.

Art Unit: 3749

21. Regarding claim 17, Dold and Harbaugh teach the limitations of claim 12 above. Dold also teaches a panel assembly that is mounted to rotate about an inclined rotational axis (A) lying in a plane perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun.

22. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold and Harbaugh as applied to claim 12 above, and further in view of Bellis.

23. Regarding claim 15, Dold and Harbaugh teach the limitations of claim 14 as above, but do not teach a mounting assembly including a fork and slot. Bellis teaches a mounting assembly comprising a mounting fork (14, Fig. 1) configured to be pivotally connected to a support frame (16 and 18, Fig. 1); and a slot in said mounting fork configured to receive the element being supported (12, Fig. 1). It would have been obvious to one skilled in the art at the time of invention to combine the device taught by Dold and Harbaugh with the mounting assembly taught by Bellis in order to make a solar tracker that may be more quickly and easily mounted and assembled.

24. Regarding claim 16, Dold, Harbaugh, and Bellis teach the limitations of claim 15 as above. Harbaugh also teaches a support frame that includes two spaced end frames (30 and 32, Fig. 2; Col. 3, Ln. 24-37) configured to be removably connected at respective ends of the base when the base is in the deployed position.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN C. HAILEY III whose telephone number is (571)272-2515. The examiner can normally be reached on Monday - Thursday 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kang Hu can be reached on (571)270-1344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3749

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOHN C. HAILEY III/
Examiner, Art Unit 3749

/AVINASH SAVANI/
Primary Examiner, Art Unit 3749

Notice of References Cited	Application/Control No. 12/830,907		Applicant(s)/Patent Under Reexamination SADE, ROVSHAN	
	Examiner JOHN C. HAILEY III		Art Unit 3749	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,898,212	03-2011	Benn et al.	320/101
*	B	US-6,616,278	09-2003	Gohno et al.	351/245
*	C	US-6,494,445	12-2002	Bellis, Jr., William B.	269/71
*	D	US-7,884,279	02-2011	Dold et al.	136/246
*	E	US-2004/0195487	10-2004	Harbaugh, Kenneth A.	248/519
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
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*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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BIB DATA SHEET

CONFIRMATION NO. 1456

SERIAL NUMBER 12/830,907	FILING or 371(c) DATE 07/06/2010 RULE	CLASS 126	GROUP ART UNIT 3749	ATTORNEY DOCKET NO. 6445-001		
APPLICANTS INVENTORS Rovshan Sade, Raleigh, NC; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY ** 07/15/2010						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/JOHN C HAILEY III/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY NC	SHEETS DRAWINGS 9	TOTAL CLAIMS 17	INDEPENDENT CLAIMS 3
ADDRESS COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518 UNITED STATES						
TITLE Solar Tracker						
FILING FEE RECEIVED 462	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

<i>Index of Claims</i> 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner JOHN C HAILEY III	Art Unit 3749

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant					☐ CPA					☐ T.D.					☐ R.1.47				
CLAIM		DATE																	
Final	Original	11/13/2012	07/11/2013	03/26/2014															
	1	✓	✓	✓															
	2	✓	✓	✓															
	3	✓	✓	✓															
	4	✓	✓	✓															
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	15	✓	✓	✓															
	16	✓	✓	✓															
	17	✓	✓	✓															

Receipt date: 07/06/2010

12830907 - GAU: 4117

PTO/SB/08a (05-07)

Approved for use through 09/30/2007. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2010-07-06
	First Named Inventor	Sade	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	6445-001	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6105316		2000-08-22	Bottger	
	2	5916047		1999-06-29	Schickert et al.	
	3	5632480		1997-05-27	Davis et al.	
	4	4226256		1980-10-07	Hawley	
	5	4063963		1977-12-20	Bond, Jr.	
If you wish to add additional U.S. Patent citation information please click the Add button.						
U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1					
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2010-07-06
	First Named Inventor	Sade	
	Art Unit		
	Examiner Name		
Attorney Docket Number		6445-001	

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/J. Crockett Hailey, III/	Date Considered	11/07/2012
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	93332	ballast near/2 straddle	US-PGPUB; USPAT	OR	ON	2012/11/06 09:33
S2	2033	S1 with container	US-PGPUB; USPAT	OR	ON	2012/11/06 09:34
S3	0	("2011/0095956").URPN.	USPAT	OR	ON	2012/11/06 09:36
S4	686	343/840.ccls.	USPAT	OR	ON	2012/11/06 09:37
S5	33	S4 and portable	USPAT	OR	ON	2012/11/06 09:38
S6	50	("4868578" "4994816" "4998114" "5334990" "5337062" "5528250").PN. OR ("5646638").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:40
S7	42	("2994870" "3646564" "3805281" "3918065" "4804972").PN. OR ("5019833").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:44
S8	19	("2860342" "3005987" "3028595" "3714660" "4458251" "4506271" "4761655").PN. OR ("4998114").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:47
S9	16	("1906546" "3832717" "4783662" "4825223").PN. OR ("5334990").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:48
S10	23	("3263232" "4086599" "4185288" "4232320" "4404565" "4458251" "4771293").PN. OR ("4994816").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:49
S11	9	("20040196207" "4998114" "5019833" "5334990" "5760751" "6462718").PN. OR ("7218289").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:51
S12	25	("3646564" "4649675" "4771293" "4868578" "5019833" "5088680" "5142293" "5158281" "5207406" "5220740" "5390914").PN. OR ("5760751").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:52
S13	41	("1804676" "4677654" "4694301" "4816838" "4992799" "5019833" "5020137" "5138328" "5170173" "5313216").PN. OR ("5404583").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:55
S14	32	("20040077309" "20040125035" "20040160375" "3412404" "3646564" "4663633" "4725843" "4771293"	US-PGPUB; USPAT;	OR	ON	2012/11/06 09:58

file:///C:/Users/jhailey/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[3/26/2014 10:11:38 AM]

		"4811026" "4873526" "4887091" "4994816" "5337062" "5418542" "5515065" "5528250" "5554998" "5646638" "5760751" "5929817" "5952980" "5966104" "5999139" "6124836" "6462718" "6507324" "6535177" "6573871" "6714170" "6734830").PN. OR ("7397435").URPN.	USOCR			
S15	5	("20040088780" "5760751" "6742684" "7028873" "7218289").PN. OR ("7598916").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:00
S16	20	("3646564" "3747113" "4314253" "4352113" "4562441").PN. OR ("4771293").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:00
S17	1	("7884279").PN.	US- PGPUB; USPAT	OR	OFF	2012/11/06 10:03
S18	21	("20020074034" "20020121298" "20030070705" "20040025931" "20040055631" "20050081908" "20050133082" "4256088" "4404565" "4830678" "4930493" "5022929" "5269851" "5317145" "5986203" "6080927" "6284968" "6662801" "6780365").PN. OR ("7884279").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:03
S19	30	"4178913"	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:04
S20	1	("4178913").PN.	US- PGPUB; USPAT	OR	OFF	2012/11/06 10:05
S21	26	("2712772" "3847136" "4063543" "4064865" "4079725").PN. OR ("4178913").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:05
S22	269	248/505.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:20
S23	17	ballast near table	US- PGPUB; USPAT	OR	ON	2012/11/06 10:27
S24	196	248/461.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S25	251	248/455.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S26	388	248/688.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S27	98	248/685.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S28	45	248/136.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:48

EAST Search History

S29	466	248/150.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:48
S30	662	248/165.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:50
S31	866	248/174.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:50
S32	269	248/505.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:50
S34	344	126/569.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:54
S35	32	126/627.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:54
S36	1	("6105316").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:55
S37	1	("5916047").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:55
S38	1	("5632480").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S39	1	("4226256").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S40	1	("4063963").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S41	1	("4644933").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S42	1	("7884279").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S43	1	("4108154").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S44	1	("20030070705").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S45	1	("6563040").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S46	1	("2473047").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S47	1	("7898212").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:58
S48	0	(41/789913).APP.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:58

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EAST Search History

S49	1	("4178913").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:58
S50	1	("6494445").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:59
S51	5	("20040088780" "5760751" "6742684" "7028873" "7218289").PN. OR ("7598916").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06: 11:17
S52	32	("20040077309" "20040125035" "20040160375" "3412404" "3646564" "4663633" "4725843" "4771293" "4811026" "4873526" "4887091" "4994816" "5337062" "5418542" "5515065" "5528250" "5554998" "5646638" "5760751" "5929817" "5952980" "5966104" "5999139" "6124836" "6462718" "6507324" "6535177" "6573871" "6714170" "6734830").PN. OR ("7397435").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06: 11:17
S53	25	("3646564" "4649675" "4771293" "4868578" "5019833" "5088680" "5142293" "5158281" "5207406" "5220740" "5390914").PN. OR ("5760751").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06: 11:19
S54	1	("5633891").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 11:22
S55	1	("7884279").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 15:00
S56	686	343/840.ccls.	USPAT	OR	ON	2012/11/06: 16:09
S57	413	126/600.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 16:39
S58	65805	"126".clas.	US-PGPUB; USPAT	OR	ON	2012/11/06: 16:39
S59	238	S58 and solar same portable	US-PGPUB; USPAT	OR	ON	2012/11/06: 16:40
S60	0	136/245.ccls	US-PGPUB; USPAT	OR	ON	2012/11/06: 17:07
S61	379	136/245.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 17:07
S62	299	fold\$4 with ballast	US-PGPUB; USPAT	OR	ON	2012/11/07: 08:01
S63	294	fold\$4 with stove	US-PGPUB; USPAT	OR	ON	2012/11/07: 08:22
S64	294	S63 not S62	US-PGPUB; USPAT	OR	ON	2012/11/07: 08:22

file:///C:/Users/jhailey/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[3/26/2014 10:11:38 AM]

S65	1	("2061336").URPN.	USPAT	OR	ON	2012/11/07 08:56
S66	17	("0497275" "2061336" "2244935" "2530166" "2576750" "3087414" "3698376").PN. OR ("3815571").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 08:57
S67	27	("1323567" "1626035" "1943585" "2714465" "3288050" "3481267" "3610225" "3812839" "4106473").PN. OR ("4548192").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 09:02
S68	5	("2907316" "3130719").PN. OR ("3903867").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 09:04
S69	40	("0718412" "1130747" "1372032" "1645421" "1881475" "2020503" "2055564" "2511594" "2515521" "2852016" "2922414" "4624238" "4911140" "5119799" "5425520").PN. OR ("5906196").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 09:04
S70	160	collaps\$3 with ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 10:53
S71	299	fold\$4 with ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 10:54
S72	149	S70 not S71	US- PGPUB; USPAT	OR	ON	2012/11/07 10:54
S73	137	pan with ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 11:40
S74	1	("5526010").PN.	US- PGPUB; USPAT	OR	OFF	2012/11/07 11:51
S75	0	("1435346").URPN.	USPAT	OR	ON	2012/11/07 12:35
S76	758	fold\$4 same ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 12:55
S77	459	S76 not S71	US- PGPUB; USPAT	OR	ON	2012/11/07 12:56
S78	0	("2011/0095956").URPN.	USPAT	OR	ON	2012/11/07 12:58
S79	686	343/840.ccls.	USPAT	OR	ON	2012/11/07 13:23
S80	36	S79 and (ballast or portable)	USPAT	OR	ON	2012/11/07 13:24
S81	3	S79 and ballast	USPAT	OR	ON	2012/11/07 13:25
S82	306	343/880.ccls.	USPAT	OR	ON	2012/11/07 13:31
S83	776	343/840.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/07 13:32
S84	36	S83 and (ballast or portable)	USPAT	OR	ON	2012/11/07

						13:32
S85	7091	fold\$4 with antenna	US-PGPUB; USPAT	OR	ON	2012/11/07 13:39
S86	3791	S85 and base	US-PGPUB; USPAT	OR	ON	2012/11/07 13:39
S87	62	S86 and ballast	US-PGPUB; USPAT	OR	ON	2012/11/07 13:46
S88	1	("6,682,029").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/07 13:54
S89	1	("5,760,751").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/07 13:54
S91	1817	S90 and sand	US-PGPUB; USPAT	OR	ON	2012/11/07 13:59
S92	86	S90 same sand	US-PGPUB; USPAT	OR	ON	2012/11/07 14:00
S93	2	("2002/0036008").URPN.	USPAT	OR	ON	2012/11/07 14:05
S94	8	("20020036008" "4296693" "4924893" "5169111" "5452877" "6164613" "6446649" "7168437").PN. OR ("8047217").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:05
S95	882	135/98.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:06
S96	261	S95 and fold\$4	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:06
S97	355	126/5.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:08
S98	48	126/571.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:10
S99	36	126/662.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:14
S100	545	126/684.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:17
S101	34	126/697.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:40
S102	47	126/626.ccls.	US-PGPUB;	OR	ON	2012/11/07 14:49

file:///C:/Users/jhailey/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[3/26/2014 10:11:38 AM]

			USPAT; USOCR			
S103	71	126/625.ccls.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:52
S104	34	126/697.ccls.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:26
S105	727375	portable sandbox	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:31
S106	9	portable near sandbox	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:31
S107	40	("1744079" "1865810" "1961061" "2479203" "2483789" "2491036" "2529951" "2580942" "2628364" "2815512" "2839762" "4500129" "4559652" "4738545" "4811437" "4856912" "4935970" "4991978" "4999863").PN. OR ("5205791").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:32
S108	12	pan adj ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 16:36
S109	4497266	remov\$4 near/3 (panel adj array)	US- PGPUB; USPAT	OR	ON	2012/11/08 09:08
S110	4499579	remov\$4 near/3 (panel adj supports)	US- PGPUB; USPAT	OR	ON	2012/11/08 09:08
S111	12766	panel adj supports	US- PGPUB; USPAT	OR	ON	2012/11/08 09:09
S112	784	S111 with remov\$4	US- PGPUB; USPAT	OR	ON	2012/11/08 09:09
S113	105	("1893481" "20020088905" "20030015636" "20030019180" "20030070368" "20030094193" "20030097806" "20030101662" "20040163338" "20040231274" "20050072103" "20050103376" "20050218657" "20060156651" "20060174931" "20070102036" "20070151594" "20070251567" "20080010915" "20080016818" "20080053517" "20080087320" "20080172955" "20080264467" "20080302407" "20080302928" "20090025710" "20090056698" "20090151775" "20090256046" "20090282755" "20090302183" "20100089389" "20100089390" "20100146899" "20100154786" "20100193012" "20100236183" "20100237028" "20100237029"	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/08 13:26

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S114	80	(base or bottom) with (weight\$3 or ballast) and portable and pan with fill\$4	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2012/12/19 11:22
S115	1570	(126/569,600.ccls.) or (136/245.ccls.) or (248/461,505,150,165,688,685,136.ccls)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2013/07/11 10:25
S116	10	(portable with folding) with (solar) and handle	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2013/07/11 10:32
S117	46	(portable with folding) with (solar) not S116	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2013/07/11 10:33
S118	6	umbrella with ballast with secur\$3	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/07 13:58
S119	20	umbrella with weighted with (hold\$3 secur\$3)	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2014/02/07 13:59
S120	25	umbrella with ballast with hold\$3	US- PGPUB; USPAT; USOCR;	OR	ON	2014/02/07 14:02

file:///C:/Users/jhailey/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[3/26/2014 10:11:38 AM]

			EPO; JPO; DERWENT			
S121	1967	fold\$4 with base with inside	US- PGPUB; USPAT	OR	ON	2014/02/07 14:10
S122	62	antenna with briefcase	US- PGPUB; USPAT	OR	ON	2014/02/07 14:44
S123	10264	carry\$3 with case with (support\$4 hold\$3)	US- PGPUB; USPAT	OR	ON	2014/02/07 14:50
S124	680	carry\$3 with case with (support\$4 hold\$3) with base	US- PGPUB; USPAT	OR	ON	2014/02/07 14:51
S125	546	("0097360" "0410414" "0421540" "0722760" "0868966" "0873855" "0929980" "0982477" "1043387" "1069617" "1072060" "1103286" "1113818" "1198431" "1224250" "1325164" "1330388" "1359617" "1391491" "1409787" "1464889" "1520044" "1546489" "1626293" "1641861" "1711348" "1713584" "1741771" "1836894" "1839783" "1860323" "1950593" "1951960" "20030137847" "20040238384" "20050018435" "20050254237" "20060209547" "20060256568" "2070226" "2121910" "2156489" "2159760" "2233806" "2259651" "2368959" "2379239" "2389788" "2422773" "2437380" "2516235" "2549306" "2568534" "2577951" "2609072" "2610761" "2616650" "2639793" "2740530" "2774563" "2877689" "3025058" "3027664" "3073615" "3116096" "3123353" "3137953" "3139256" "3176676" "3182585" "3216681" "3223826" "3303591" "3318462" "3326337" "3378322" "3399889" "3401535" "3463916" "3483954" "3495364" "3496659" "3503094" "3513564" "3572919" "3603588" "3611912" "3614184" "3637070" "3645009" "3699673" "3716234" "3722886" "3731818" "3742838" "3798788" "3841631" "3858718" "3861695" "3867877" "3885829" "3900252" "3930702" "3936109" "3983976" "4034518" "4049091" "4119107" "4136464" "4143413" "4145602" "4153154" "4165924" "4171580" "4175768" "4220981" "4239258" "4266791" "4294444" "4311223" "4379432" "4389946" "4412679").PN. OR ("4438913" "4445415" "4526367" "4570358" "4595265" "4600980" "4634090" "4684091" "4840128" "4856677" "4869501" "4935854" "4946163" "4979754" "4986395" "5012394" "5038035" "5060580"	US- PGPUB; USPAT; USOCR	OR	ON	2014/02/10 09:28

EAST Search History

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S126	3	"7898212"	US- PGPUB; USPAT; USOCR	OR	ON	2014/02/10 11:22
S127	633	bellis.in.	US- PGPUB; USPAT; USOCR	OR	ON	2014/02/10 12:43
S128	1	"7884279".pn.	US- PGPUB; USPAT; USOCR	OR	ON	2014/02/10 12:47

EAST Search History (Interference)

< This search history is empty >

3/ 26/ 2014 10:11:32 AM**C:\Users\jhailey\Documents\EAST\Workspaces\12830907 Solar Tracker 1.wsp**

Search Notes 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner JOHN C HAILEY III	Art Unit 3749

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
126	569, 600	11/5/12-11/8/12	JCH
136	245	11/5/12-11/8/12	JCH
248	461, 505, 150, 165, 688, 685, 136	11/5/12-11/8/12	JCH
	Updated all	07/11/2013	JCH
	Updated All	02/10/2014	JCH

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor name search, consulted Primary Examiner Avinash Savani, east text (attached), class searches, fwd/bkwd searches	11/5/12-11/8/12	JCH
Updated all	07/11/2013	JCH
Updated all	02/10/2014	JCH

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/J.C.H./ Examiner:Art Unit 4117	
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456
24112 7590 02/13/2014 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER HAILEY III, JOHN C	
			ART UNIT	PAPER NUMBER
			3749	
			MAIL DATE	DELIVERY MODE
			02/13/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Panel Decision from Pre-Appeal Brief Review	Application No. 12/830,907	Applicant(s) SADE, ROVSHAN
	Examiner JOHN C. HAILEY III	Art Unit 3749

This is in response to the Pre-Appeal Brief Request for Review filed 16 January, 2014.

1. ☐ **Improper Request** – The Request is improper and a conference will not be held for the following reason(s):

- ☐ The Notice of Appeal has not been filed concurrent with the Pre-Appeal Brief Request.
- ☐ The request does not include reasons why a review is appropriate.
- ☐ A proposed amendment is included with the Pre-Appeal Brief request.
- ☐ Other: .

The time period for filing a response continues to run from the receipt date of the Notice of Appeal or from the mail date of the last Office communication, if no Notice of Appeal has been received.

2. ☐ **Proceed to Board of Patent Appeals and Interferences** – A Pre-Appeal Brief conference has been held. The application remains under appeal because there is at least one actual issue for appeal. Applicant is required to submit an appeal brief in accordance with 37 CFR 41.37. The time period for filing an appeal brief will be reset to be one month from mailing this decision, or the balance of the two-month time period running from the receipt of the notice of appeal, whichever is greater. Further, the time period for filing of the appeal brief is extendible under 37 CFR 1.136 based upon the mail date of this decision or the receipt date of the notice of appeal, as applicable.

☐ The panel has determined the status of the claim(s) is as follows:

Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

3. ☐ **Allowable application** – A conference has been held. The rejection is withdrawn and a Notice of Allowance will be mailed. Prosecution on the merits remains closed. No further action is required by applicant at this time.

4. ☒ **Reopen Prosecution** – A conference has been held. The rejection is withdrawn and a new Office action will be mailed. No further action is required by applicant at this time.

All participants:

(1) <u>JOHN C. HAILEY III.</u>		(3) <u>KANG HU.</u>
(2) <u>STEVE McALLISTER.</u>		(4) _____.
/JOHN C. HAILEY III/ Examiner, Art Unit 3749	/KANG HU/ Supervisory Patent Examiner, Art Unit 3749	/STEVEN B. MCALLISTER/ Supervisory Patent Examiner, Art Unit 3749

Doc Code: AP.PRE.REQ

PTO/AIA/33 (03-13)
Approved for use through 07/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)	
		6445-001	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____ Signature _____ Typed or printed name _____	Application Number	Filed	
	12/830,907	July 6, 2010	
	First Named Inventor Rovshan Sade		
	Art Unit	Examiner	
	4117	John C. Hailey, III	
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.			
This request is being filed with a notice of appeal.			
The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.			
I am the		/David E. Bennett, Reg. No. 32,194/	
		Signature	
☐ applicant.		David E. Bennett	
		Typed or printed name	
☒ attorney or agent of record.		919-854-1844	
Registration number 32,194		Telephone number	
☐ attorney or agent acting under 37 CFR 1.34.		January 16, 2014	
Registration number if acting under 37 CFR 1.34		Date	
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.			
☒ *Total of 1 forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Rovshan Sade	)	
	)	
Serial No.: 12/830,907	)	Examiner: John C. Hailey, III
	)	
Filed: July 6, 2010	)	Group Art Unit: 4117
	)	
For: Solar Tracker	)	Confirmation No.: 1456
	)	
Docket No: 6445-001	)	

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ARGUMENTS PRESENTED FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

This paper is being filed in response to the Final Office Action mailed July 17, 2013. Applicant submits the following remarks in support of Applicant's Pre-Appeal Brief. A three-month time extension is requested, and the corresponding fees are submitted herewith. The Office is hereby authorized to charge any fees required for entry of this paper to Deposit Account 18-1167.

REMARKS

The claimed invention relates to a free standing solar tracker that can be used for both residential and commercial applications. The solar tracker comprises a base, a support frame, a panel assembly including one or more solar panels, and an actuator to rotate the solar panel to track the movement of the sun. The solar tracker is designed to be free-standing and requires no foundation. When the solar tracker is deployed, the base forms a pan to contain a ballast material for holding the base in place. The free-standing support enables the solar tracker to be deployed in any location with adequate exposure to the sun without the need for a foundation or other support structure already in place.

Claim 1 is directed to a solar tracker having a base forming an open pan for containing a ballast material. Claim 1 has been rejected under 35 U.S.C. §103(a) as being obvious over Dold (US 7,884,279) in view of Rebec (US 5,633,891). Applicant respectfully submits that Dold and Rebec do not teach all of the limitations of claim 1 and that there is no rationale basis to combine the teachings of Dold and Rebec as suggested by the Examiner.

Dold discloses a solar tracker having a support frame, a panel assembly rotatably mounted to the support frame, and an actuator assembly for rotating the panel assembly to track the movement of the sun. The tracker in Dold is designed to withstand extreme weather conditions and high winds. Dold does not disclose a base forming an open pan for containing a ballast material as recited in claim 1. Rather, Dold discloses a base comprising support beams (36,38) with posts (40) that extend into the ground.

Rebec discloses a portable satellite antenna with a carrying case (see Figs. 10A and 10B). The portable satellite antenna comprises a fabric umbrella dish that folds into a carrying case. Rebec teaches that the carrying case is light enough that a person of average strength can carry it by a handle. Rebec 14:46-57. The Examiner argues that it "would have been obvious to one skilled in the art at the time of the invention to combine the solar tracker taught

by Dold with the base structures taught by Rebec in order to make a more portable and easily transported solar tracker." Final Office Action page 3. Applicant respectfully submits that the reasons proposed for combining Dold and Rebec are contrived in hindsight and that there is no real reason for combining these references as proposed by the Examiner.

The purpose of the base structure in Dold is to provide support for the solar tracker, which is intended to be installed in a fixed location for an extended period of time and to withstand extreme weather conditions. Rebec, in contrast, relates to a portable carrying case for a small, light-weight satellite antenna. The subject matter in Rebec is not in the same field of endeavor and is not related to the particular problem solved by the claimed invention, which is to provide a secure support for the solar panel that can withstand high weather conditions. The solar tracker in Dold is not intended to be portable so it would be nonsensical to provide a portable carrying case for the Dold solar tracker. Further, there is no mention in Rebec of using ballast material to anchor the portable satellite so there is not suggestion to provide a base that forms an open pan for receiving ballast material. Therefore, it is respectfully submitted that claim 1 is patentable over Dold in combination with Rebec. Dependent claims 2-8 are patentable for the same reasons as claim 1.

Claim 9 is directed to a solar system comprising a base, a support frame removably mounted to the base, and a panel assembly removably mounted to the support frame. The panel assembly comprises an array of solar panels. The base comprises first and second sections configurable in a deployed position and a storage position. In the deployed position, the base forms an open pan for containing a ballast material. In the storage position, the base forms a carrier having an internal compartment, which may contain components of the solar system. In this embodiment, the base provides a compact structure for storage and transportation of the solar system.

Claim 9 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Dold in view of Meir (US 2009/0134291), and further in view of Rebec. Applicant respectfully submits that the claimed invention is not disclosed or suggested by the combination of Dold, Meir and Rebec.

The Dold and Rebec references have already been summarized above in the arguments addressing the rejection of claim 1. Meir discloses a system for mounting a solar panel on a rooftop. The mounting system comprises a ballast frame and support brackets mounted to the ballast frame for supporting the solar panel. The ballast frame in Meir does not form an open pan because the frame does not include a bottom. Rather, the ballast frame functions more like a rack into which concrete blocks are placed. The ballast frame in Meir also does not comprise first and second sections that are configurable in a deployable position and a storage position.

To disclose the teaching of a base having first and second sections, the Examiner relies again on Rebec. As discussed above, Rebec discloses a portable carrying case for a small, light-weight satellite dish. The carrying case comprises two sections which are hinged together like a suitcase. In fact, Rebec refers to the carrying case as a suitcase. As discussed above, the solar tracker in Dold is not intended to be portable so it would be nonsensical to provide a portable carrying case as taught by Rebec for the Dold solar tracker. Accordingly, it is respectfully submitted that claim 9 is patentable over Dold in view of Meir and Rebec. Claims 10 and 11 depend from claim 9 and are patentable for the same reasons as claim 9.

Claim 12 is directed to a solar system comprising a base that rests on an underlying support surface, a support frame mounted to the base, a panel assembly including a plurality of solar panels mounted to the support frame, and one or more ballast containers configured to straddle at least one of the base beams for containing a ballast material. Claim 12 has been rejected under 35 U.S.C. §103(a) as being obvious over Dold in view of Meir. Applicant

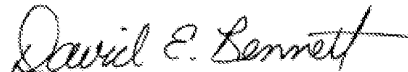
respectfully submits that neither Dold nor Meir disclosed the claimed ballast container configured to straddle a base beam as recited in claim 12.

The Examiner argues that Meir teaches one or more ballast containers as recited in claim 12. In support of this contention, the Examiner refers to paragraphs 5 and 6 in Meir. However, these paragraphs do not show a ballast container that straddles a base beam. Rather, the ballast frame in Meir comprises a plurality of frame members. Weighted objects, such as concrete blocks, are placed in the ballast frames as shown in Fig. 15. The frame members can be adjusted to accommodate concrete blocks of different sizes.

It is unclear what the Examiner considers to be the ballast containers. The ballast frame in Meir is analogous to the base in the claimed invention and the frame members in Meir are analogous to the base beams in the claimed invention. Meir does not disclose ballast containers that straddle the base beams as recited in claim 12. Rather, Meir discloses The concrete blocks that extend between different frame members. The concrete blocks do not do not straddle the frame members.

A claim is not obvious unless the prior art discloses every limitation of the claims. The combination of Dold and Meir does not disclose a ballast container that straddles a base beam as recited in claim 12. Because the ballast container limitation is not disclosed by the combination, claim 12 is patentable over Dold and Meir. Claims 13-17 depend from claim 12 and are patentable for the same reasons as claim 12.

Respectfully submitted,
COATS & BENNETT, P.L.L.C.



Dated: January 16, 2014

David E. Bennett
Registration No.: 32,194
Telephone: (919) 854-1844

Electronic Patent Application Fee Transmittal				
Application Number:		12830907		
Filing Date:		06-Jul-2010		
Title of Invention:		Solar Tracker		
First Named Inventor/Applicant Name:		Rovshan Sade		
Filer:		David E. Bennett/Donna Donovan		
Attorney Docket Number:		6445-001		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Notice of Appeal	2401	1	400	400
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
Total in USD (\$)				1100

Electronic Acknowledgement Receipt	
EFS ID:	17936713
Application Number:	12830907
International Application Number:	
Confirmation Number:	1456
Title of Invention:	Solar Tracker
First Named Inventor/Applicant Name:	Rovshan Sade
Customer Number:	24112
Filer:	David E. Bennett/Donna Donovan
Filer Authorized By:	David E. Bennett
Attorney Docket Number:	6445-001
Receipt Date:	16-JAN-2014
Filing Date:	06-JUL-2010
Time Stamp:	17:12:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	\$1100
RAM confirmation Number	4045
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Notice of Appeal Filed	Notice_of_Appeal.pdf	251415 7df1678df14c91b82c800730bddf8dd9e2b32e0	no	2
Warnings:					
Information:					
2	Pre-Brief Conference request	Pre-Appeal_Brief_Request_Form.pdf	191742 27b0ef515373981c98bc6df9a1a73a202f3e14c	no	2
Warnings:					
Information:					
3	Pre-Brief Conference request	Arguments_in_Support_of_Pre-Appeal_Brief_Request.pdf	34604 d61ef0885cd57cad6d791bf1d9589eca4076b32	no	5
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	31631 f46ebf82bb0fe36bd07457604f4e8169c92df97ca	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			509392		
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I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, on Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____. Signature _____ Typed or printed name _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 2px;">In re Application of Rovshan Sade</td> </tr> <tr> <td style="width: 60%; padding: 2px;">Application Number 12/830,907</td> <td style="padding: 2px;">Filed July 6, 2010</td> </tr> <tr> <td colspan="2" style="padding: 2px;">For Solar Tracker</td> </tr> <tr> <td style="padding: 2px;">Art Unit 4117</td> <td style="padding: 2px;">Examiner John C. Hailey, III</td> </tr> </table>		In re Application of Rovshan Sade		Application Number 12/830,907	Filed July 6, 2010	For Solar Tracker		Art Unit 4117	Examiner John C. Hailey, III
In re Application of Rovshan Sade										
Application Number 12/830,907	Filed July 6, 2010									
For Solar Tracker										
Art Unit 4117	Examiner John C. Hailey, III									
Applicant hereby appeals to the Patent Trial and Appeal Board from the last decision of the examiner.										
The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) \$ <u>800.00</u>										
☒ Applicant asserts small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by 50%, and the resulting fee is: \$ <u>400.00</u>										
☐ Applicant certifies micro entity status. See 37 CFR 1.29. Therefore, the fee shown above is reduced by 75%, and the resulting fee is: \$ _____ Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.										
☐ A check in the amount of the fee is enclosed.										
☐ Payment by credit card. Form PTO-2038 is attached.										
☐ The Director has already been authorized to charge fees in this application to a Deposit Account.										
☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. <u>18-1167</u> .										
☒ Payment made via EFS-Web.										
☐ A petition for an extension of time under 37 CFR 1.136(a) (PTO/AIA/22 or equivalent) is enclosed. For extensions of time in reexamination proceedings, see 37 CFR 1.550.										
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I am the										
☐ applicant										
☒ attorney or agent of record Registration number <u>32,194</u>										
☐ attorney or agent acting under 37 CFR 1.34 Registration number _____										
Signature <u>/David E. Bennett, Reg. No. 32,194/</u>										
Typed or printed name <u>David E. Bennett</u>										
Telephone Number <u>919-854-1844</u>										
Date <u>January 16, 2014</u>										
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.										
☒ * Total of <u>1</u> forms are submitted.										

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456
24112	7590	07/17/2013		
COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER HAILEY III, JOHN C	
			ART UNIT	PAPER NUMBER
			3749	
			MAIL DATE	DELIVERY MODE
			07/17/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 12/830,907	Applicant(s) SADE, ROVSHAN	
	Examiner J. CROCKETT HAILEY III	Art Unit 3749	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 05/17/2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☒ Claim(s) 1-17 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1-17 is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☐ The specification is objected to by the Examiner.

11) ☒ The drawing(s) filed on 17 May 2013 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some * c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.

4) ☐ Other: ____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/17/2013 have been fully considered but they are not persuasive.
2. In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, especially with respect to Rebec, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, it would be reasonable for one of ordinary skill in the art to desire a solar collector similar in structure to the one taught by Dold, but in a more compact and easily transportable configuration as taught by Rebec. The teachings of Dold are not limited to a specific size or weight, and a small solar collector supplying even a small amount of energy could be quite useful in a number of scenarios (e.g., charging a cellular telephone in a remote location).
3. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).
4. In response to applicant's argument that Rebec is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Rebec and applicant's invention are in the same field of endeavor. Both teach and describe electronic devices for tracking a celestial body. Both are, furthermore, concerned with the

Art Unit: 3749

problem of how to make a celestial body tracking device more portable and easily moved. Nothing in applicant's specification or claims provide some exact limit on the degree of portability, and as a result, such arguments are unpersuasive.

5. In response to applicant's argument that Rebec does not provide a complete solution since it does not mention ballast, Examiner notes that mention of ballast in applicant's own claim only appears in the clause "for containing a ballast." A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the present case, the open pan formed by Rebec's open case is fully capable of receiving and containing some ballast, and, therefore, meets the claim limitation.

6. In response to applicant's arguments against the references individually, specifically Meir, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

7. In response to applicant's arguments that Meir does not teach a ballast container which straddles a base beam, Examiner disagrees. The ballast container of applicant's invention is taught by Meir as a "weighted object." (Meir ¶¶ 0005 and 0006). The thing which provides the weight is considered "a ballast," as the term is used by applicant, while the object described by Meir is considered to be the requisite "container." Furthermore, the ballast container (i.e., weighted object) of Meir straddles a base beam (3 and 4, Fig. 1; ¶ 0024), providing the claim limitations not already taught by Dold.

8. Applicant's arguments, see page 12, ¶¶ 4, 5, and 6, filed 05/17/2013, with respect to the objections of the drawings, specification, and claim 9 have been fully considered and are persuasive. The objections of 11/19/2012 have been withdrawn.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3749

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold (US 7884279) in view of Rebec (US 5633891)..

3. Regarding claim 1, Dold teaches a solar tracker comprising:

A support frame (30 and 32) mounted to the base;

A panel assembly (10) including a plurality of solar panels (12) rotatably mounted to the support frame; and

An actuator assembly (22 and 24) for rotating the panel assembly to track the movement of the sun.

Dold does not teach a base forming an open pan for containing a ballast material. Rebec teaches a base (1001) opening to form a pan for holding ballast. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base structures taught by Rebec in order to make a more portable and easily transported solar tracker. See Dold Fig. 1A and Rebec Fig. 10B.

4. Regarding claim 2, Dold and Rebec teach the limitations of claim 1 above. Rebec also teaches a base comprising first (1006) and second sections (1004) that are movable between a storage position and deployed position, wherein the base forms said open pan in the deployed position for holding the ballast material and forms a carrier in the storage position including a closed compartment for containing disassembled components of the support frame and panel assembly. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base structures taught by Rebec in order to make a more portable and easily transported solar tracker. See Rebec Fig. 10A.

5. Regarding claim 3, Dold and Rebec teach the limitations of claim 2 above. Dold also teaches a central spine (28a) rotatably mounted to the support frame; and a plurality of panel carriers (14) extending outwardly from said spine for supporting said solar panels. See Dold Fig. 2.

6. Regarding claim 4, Dold and Rebec teach the limitations of claim 3 above. Dold also teaches panel carriers (14) that are removably connected (42) to the spine. However, Dold does not teach that they are configured to fit inside a closed compartment when the base is in the storage position. Rebec teaches a device wherein the frame and structure of the device can be placed inside the base compartment (1001). As a result, one skilled in the art would readily recognize that the panel carriers taught by Dold would be suitable for storage inside of the base taught by Rebec in place of the remainder of the structure taught by Rebec. See Dold Fig. 5 and Rebec Fig. 10A.
7. Regarding claim 8, Dold and Rebec teach the limits of claim 1 above. Dold also teaches a panel assembly (10) mounted to rotate about an inclined rotational axis (A) such that the rotation of the panel assembly tracks changes in the azimuth of the sun (Column 2, Lines 24-60). Dold Fig. 1A.
8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dold and Rebec as applied to claim 3 above, in further view of Bellis (US 6494445).
9. Regarding claim 5, Dold and Rebec teach the limitations of claim 3 above, but do not teach a mounting assembly including a fork and slot. Bellis teaches a mounting assembly comprising a mounting fork (14) configured to be pivotally connected to a support frame (16 and 18); and a slot in said mounting fork configured to receive the element being supported (12). It would have been obvious to one skilled in the art at the time of invention to combine the device taught by Dold and Rebec with the mounting assembly taught by Bellis in order to make a solar tracker that may be more quickly and easily mounted and assembled. See Bellis Fig. 1.
10. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold and Rebec as applied to claim 2 above, in further view of Meir (US 2009/0134291).
11. Regarding claim 6, Dold and Rebec teach the limitations of claim 2 above, but do not teach removable end frames. Meir teaches two spaced end frames (17) configured to be removably connected at respective ends of the base when the base is in the deployed position. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base taught by Rebec in order to make a more easily transported solar tracker. It would have been obvious to one skilled in the art at the time of invention to further combine the solar tracker taught by Dold and

Art Unit: 3749

Rebec with the structure taught by Meir in order to make a solar tracker that could quickly assembled, disassembled, and relocated. See Meir Fig. 5 and Rebec Fig. 10A.

12. Regarding claim 7, Dold, Rebec, and Meir teach the limitations of claim 6 above. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base taught by Rebec in order to make a more easily transported solar tracker. However, none of the pieces of prior art individually teaches two or more frame members to be placed inside the base when in the closed position. Nonetheless, placing two or more frame members in a transportable base compartment would have been obvious to one skilled in the art at the time of invention. Meir teaches two frame members that can be easily disassembled for storage or transportation (17). Rebec teaches a device wherein the frame and structure of the device can be placed inside the base compartment (1001). As a result, one skilled in the art would readily recognize that the frame members taught by Meir would be suitable for storage inside of the base taught by Rebec in place of the remainder of the structure taught by Rebec. See Meir Fig. 5 and Rebec Fig. 10A.

13. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold in view of Meir, and Rebec.

14. Regarding claim 9, Dold teaches a solar system comprising a panel assembly (10) mounted to a support frame (30 and 32), including an array of solar panels (12). Dold does not teach a base for containing a ballast. Rebec teaches a base having first (1006) and second (1004) sections configurable in a deployed position and a storage position that forms an internal compartment. Meir teaches a solar system base (10) forming an open pan for containing a ballast material in its deployed position. It would have been obvious to one skilled in the art at the time of invention to combine the solar system taught by Dold with the base structures taught by Meir and Rebec in order to make a more portable and easily transported solar tracker. See Dold Fig. 2, Meir Fig. 1, and Rebec Fig. 10A.

15. Regarding claim 10, Dold, Meir, and Rebec teach the limitations of claim 9 as above. Dold also teaches a panel assembly comprising a central spine (28a) rotatably mounted to the support frame; and a plurality of panel carriers (14) extending outwardly from said spine for supporting solar panels. See Dold Fig. 2.

Art Unit: 3749

16. Regarding claim 11, Dold, Meir, and Rebec teach the limitations of claim 9 as above. Dold also teaches panel carriers (14) that are removably connected (42) to the spine. However, Dold does not teach that they are configured to fit inside a closed compartment when the base is in the storage position. Rebec teaches a device wherein the frame and structure of the device can be placed inside the base compartment (1001). As a result, one skilled in the art would readily recognize that the panel carriers taught by Dold would be suitable for storage inside of the base taught by Rebec in place of the remainder of the structure taught by Rebec. See Dold Fig. 5 and Rebec Fig. 10A.

17. Claims 12-14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold in view of Meir.

18. Regarding claim 12, Dold teaches a solar system comprising a base comprising one or more base beams (36a and 36b) that rest on an underlying support surface;

- a support frame (30 and 32) mounted to said base;
- a panel assembly (10) mounted to said support frame, said panel assembly including a plurality of solar panels (12);

Dold does not teach use of any separate ballast. Meir teaches one or more ballast containers (¶¶ 0005 and 0006) configured to straddle at least one of the base beams for containing a ballast material to hold a solar tracker in place. It would have been obvious to one skilled in the art at the time of invention to combine the solar system taught by Dold with the base structures taught by Meir in order to have a more securely held solar tracker. See Dold Fig. 2.

19. Regarding claim 13, Dold and Meir teach the limitations of claim 12 above. Dold also teaches a panel assembly that is rotatably mounted to said frame and further comprising an actuator assembly (22 and 24) for rotating the panel assembly to track the movement of the sun. See Dold Fig. 2.

20. Regarding claim 14, Dold and Meir teach the limitations of claim 13 above. Dold also teaches a panel assembly comprises a central spine (28a) rotatably mounted to the support frame; and a plurality of panel carriers (14) extending outwardly from said spine for supporting said solar panels. See Dold Fig. 2.

21. Regarding claim 17, Dold and Meir teach the limitations of claim 12 above. Dold also teaches a panel assembly that is mounted to rotate about an inclined rotational axis (A) lying in a plane

Art Unit: 3749

perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun. See Dold Fig. 2.

22. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold and Meir as applied to claim 12 above, and further in view of Bellis.

23. Regarding claim 15, Dold and Meir teach the limitations of claim 14 as above, but do not teach a mounting assembly including a fork and slot. Bellis teaches a mounting assembly comprising a mounting fork (14) configured to be pivotally connected to a support frame (16 and 18); and a slot in said mounting fork configured to receive the element being supported (12). It would have been obvious to one skilled in the art at the time of invention to combine the device taught by Dold and Meir with the mounting assembly taught by Bellis in order to make a solar tracker that may be more quickly and easily mounted and assembled. See Bellis Fig. 1.

24. Regarding claim 16, Dold, Meir, and Bellis teach the limitations of claim 15 as above. Meir also teaches a support frame that includes two spaced end frames (17) configured to be removably connected at respective ends of the base when the base is in the deployed position. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with Meir and Bellis in order to make a more portable and easily transported solar tracker. See Meir Fig. 5.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3749

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. CROCKETT HAILEY III whose telephone number is (571)272-2515. The examiner can normally be reached on Monday - Thursday 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571)272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. CROCKETT HAILEY III/
Examiner, Art Unit 3749

/Kang Hu/
Primary Examiner, Art Unit 3715, 3749

Notice of References Cited	Application/Control No. 12/830,907		Applicant(s)/Patent Under Reexamination SADE, ROVSHAN	
	Examiner J. CROCKETT HAILEY III		Art Unit 3749	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,884,279	02-2011	Dold et al.	136/246
*	B	US-5,633,891	05-1997	Rebec et al.	375/219
*	C	US-2009/0134291	05-2009	Meier et al.	248/222.14
*	D	US-6,494,445	12-2002	Bellis, Jr., William B.	269/71
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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BIB DATA SHEET

CONFIRMATION NO. 1456

SERIAL NUMBER 12/830,907	FILING or 371(c) DATE 07/06/2010	CLASS 126	GROUP ART UNIT 3749	ATTORNEY DOCKET NO. 6445-001
APPLICANTS Rovshan Sade, Raleigh, NC;				
** CONTINUING DATA *****				
** FOREIGN APPLICATIONS *****				
** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 07/15/2010				
Foreign Priority claimed ☐ Yes ☒ No	35 USC 119(a-d) conditions met ☐ Yes ☒ No	☐ Met after Allowance	STATE OR COUNTRY NC	SHEETS DRAWINGS 9
Verified and Acknowledged	/J CROCKETT HAILEY III/ Examiner's Signature	Initials	TOTAL CLAIMS 17	INDEPENDENT CLAIMS 3
ADDRESS COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518 UNITED STATES				
TITLE Solar Tracker				
FILING FEE RECEIVED 462	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit	

<i>Index of Claims</i> 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner J CROCKETT HAILEY III	Art Unit 3749

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant				☐ CPA				☐ T.D.				☐ R.1.47			
CLAIM		DATE													
Final	Original	11/13/2012	07/11/2013												
	1	✓	✓												
	2	✓	✓												
	3	✓	✓												
	4	✓	✓												
	5	✓	✓												
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	16	✓	✓												
	17	✓	✓												

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	1570	(126/569,600.ccls.) or (136/245.ccls.) or (248/461,505,150,165,688,685,136.ccls)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2013/07/11 10:25
L7	10	(portable with folding) with (solar) and handle	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2013/07/11 10:32
L8	46	(portable with folding) with (solar) not 7	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2013/07/11 10:33
S1	93332	ballast near/2 straddle	US-PGPUB; USPAT	OR	ON	2012/11/06 09:33
S2	2033	S1 with container	US-PGPUB; USPAT	OR	ON	2012/11/06 09:34
S3	0	("2011/0095956").URPN.	USPAT	OR	ON	2012/11/06 09:36
S4	686	343/840.ccls.	USPAT	OR	ON	2012/11/06 09:37
S5	33	S4 and portable	USPAT	OR	ON	2012/11/06 09:38
S6	50	("4868578" "4994816" "4998114" "5334990" "5337062" "5528250").PN. OR ("5646638").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:40
S7	42	("2994870" "3646564" "3805281" "3918065" "4804972").PN. OR ("5019833").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:44
S8	19	("2860342" "3005987" "3028595" "3714660" "4458251" "4506271" "4761655").PN. OR ("4998114").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:47
S9	16	("1906546" "3832717" "4783662" "4825223").PN. OR ("5334990").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:48
S10	23	("3263232" "4086599" "4185288" "4232320" "4404565" "4458251"	US-PGPUB;	OR	ON	2012/11/06 09:49

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S15	5	("20040088780" "5760751" "6742684" "7028873" "7218289").PN. OR ("7598916").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:00
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S17	1	("7884279").PN.	US- PGPUB; USPAT	OR	OFF	2012/11/06 10:03
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S21	26	("2712772" "3847136" "4063543" "4064865" "4079725").PN. OR ("4178913").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:05
S22	269	248/505.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:20

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EAST Search History

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S25	251	248/455.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:47
S26	388	248/688.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:47
S27	98	248/685.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:47
S28	45	248/136.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:48
S29	466	248/150.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:48
S30	662	248/165.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:50
S31	866	248/174.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:50
S32	269	248/505.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:50
S34	344	126/569.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:54
S35	32	126/627.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 10:54
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S37	1	("5916047").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:55
S38	1	("5632480").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:56
S39	1	("4226256").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:56
S40	1	("4063963").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:56
S41	1	("4644933").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:56
S42	1	("7884279").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:57

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S47	1	("7898212").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06: 10:58
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S58	65805	"126".clas.	US-PGPUB; USPAT	OR	ON	2012/11/06: 16:39

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S59	238	S58 and solar same portable	US-PGPUB; USPAT	OR	ON	2012/11/06: 16:40
S60	0	136/245.ccls	US-PGPUB; USPAT	OR	ON	2012/11/06: 17:07
S61	379	136/245.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06: 17:07
S62	299	fold\$4 with ballast	US-PGPUB; USPAT	OR	ON	2012/11/07: 08:01
S63	294	fold\$4 with stove	US-PGPUB; USPAT	OR	ON	2012/11/07: 08:22
S64	294	S63 not S62	US-PGPUB; USPAT	OR	ON	2012/11/07: 08:22
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S68	5	("2907316" "3130719").PN. OR ("3903867").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07: 09:04
S69	40	("0718412" "1130747" "1372032" "1645421" "1881475" "2020503" "2055564" "2511594" "2515521" "2852016" "2922414" "4624238" "4911140" "5119799" "5425520").PN. OR ("5906196").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07: 09:04
S70	160	collaps\$3 with ballast	US-PGPUB; USPAT	OR	ON	2012/11/07: 10:53
S71	299	fold\$4 with ballast	US-PGPUB; USPAT	OR	ON	2012/11/07: 10:54
S72	149	S70 not S71	US-PGPUB; USPAT	OR	ON	2012/11/07: 10:54
S73	137	pan with ballast	US-PGPUB; USPAT	OR	ON	2012/11/07: 11:40
S74	1	("5526010").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/07: 11:51
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S76	758	fold\$4 same ballast	US-PGPUB; USPAT	OR	ON	2012/11/07: 12:55

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S81	3	S79 and ballast	USPAT	OR	ON	2012/11/07 13:25
S82	306	343/880.ccls.	USPAT	OR	ON	2012/11/07 13:31
S83	776	343/840.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/07 13:32
S84	36	S83 and (ballast or portable)	USPAT	OR	ON	2012/11/07 13:32
S85	7091	fold\$4 with antenna	US-PGPUB; USPAT	OR	ON	2012/11/07 13:39
S86	3791	S85 and base	US-PGPUB; USPAT	OR	ON	2012/11/07 13:39
S87	62	S86 and ballast	US-PGPUB; USPAT	OR	ON	2012/11/07 13:46
S88	1	("6,682,029").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/07 13:54
S89	1	("5,760,751").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/07 13:54
S91	1817	S90 and sand	US-PGPUB; USPAT	OR	ON	2012/11/07 13:59
S92	86	S90 same sand	US-PGPUB; USPAT	OR	ON	2012/11/07 14:00
S93	2	("2002/0036008").URPN.	USPAT	OR	ON	2012/11/07 14:05
S94	8	("20020036008" "4296693" "4924893" "5169111" "5452877" "6164613" "6446649" "7168437").PN. OR ("8047217").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:05
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S96	261	S95 and fold\$4	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:06
S97	355	126/5.ccls.	US-PGPUB; USPAT;	OR	ON	2012/11/07 14:08

			USOCR			
S98	48	126/571.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:10
S99	36	126/662.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:14
S100	545	126/684.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:17
S101	34	126/697.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:40
S102	47	126/626.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:49
S103	71	126/625.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:52
S104	34	126/697.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:26
S105	727375	portable sandbox	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:31
S106	9	portable near sandbox	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:31
S107	40	("1744079" "1865810" "1961061" "2479203" "2483789" "2491036" "2529951" "2580942" "2628364" "2815512" "2839762" "4500129" "4559652" "4738545" "4811437" "4856912" "4935970" "4991978" "4999863").PN. OR ("5205791").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:32
S108	12	pan adj ballast	US-PGPUB; USPAT	OR	ON	2012/11/07 16:36
S109	4497266	remov\$4 near/3 (panel adj array)	US-PGPUB; USPAT	OR	ON	2012/11/08 09:08
S110	4499579	remov\$4 near/3 (panel adj supports)	US-PGPUB; USPAT	OR	ON	2012/11/08 09:08
S111	12766	panel adj supports	US-PGPUB; USPAT	OR	ON	2012/11/08 09:09
S112	784	S111 with remov\$4	US-PGPUB;	OR	ON	2012/11/08 09:09

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			USPAT			
S113	105	"1893481" "20020088905" "20030015636" "20030019180" "20030070368" "20030094193" "20030097806" "20030101662" "20040163338" "20040231274" "20050072103" "20050103376" "20050218657" "20060156651" "20060174931" "20070102036" "20070151594" "20070251567" "20080010915" "20080016818" "20080053517" "20080087320" "20080172955" "20080264467" "20080302407" "20080302928" "20090025710" "20090056698" "20090151775" "20090256046" "20090282755" "20090302183" "20100089389" "20100089390" "20100146899" "20100154786" "20100193012" "20100236183" "20100237028" "20100237029" "20100269446" "20100307991" "20110068244" "20110072631" "2673632" "2938068" "3210716" "3261086" "3844087" "4006731" "4159604" "4162595" "4269173" "4278072" "4452027" "4452234" "4466424" "4580385" "4680905" "4721555" "4789070" "4892632" "4966631" "4977646" "5125608" "5143556" "5228258" "5232518" "5299396" "5308037" "5546713" "5634644" "5706617" "5735100" "5762720" "5946874" "5969501" "5986203" "6046399" "6056283" "6065255" "6111189" "6141923" "6370828" "6389770" "6501013" "6617507" "6672018" "6784359" "6799398" "6959517" "6988344" "7012188" "7307209" "7406800" "7435897" "7600350" "7845120" "7939754" "7987641").PN. OR ("8256169").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/08 13:26
S114	80	(base or bottom) with (weight\$3 or ballast) and portable and pan with fill\$4	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2012/12/19 11:22

7/ 11/ 2013 10:38:38 AM

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Search Notes 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner J CROCKETT HAILEY III	Art Unit 3749

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
126	569, 600	11/5/12-11/8/12	JCH
136	245	11/5/12-11/8/12	JCH
248	461, 505, 150, 165, 688, 685, 136	11/5/12-11/8/12	JCH
	Updated all	07/11/2013	JCH

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor name search, consulted Primary Examiner Avinash Savani, east text (attached), class searches, fwd/bkwd searches	11/5/12-11/8/12	JCH
Updated all	07/11/2013	JCH

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

/J.C.H./ Examiner: Art Unit 4117	
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of **Rovshan Sade**

Serial No.: **12/830,907**

Filed: **July 6, 2010**

For: **Solar Tracker**

Docket No: **6445-001**

Examiner: Mr. John C. Hailey, III

Group Art Unit: 4117

Confirmation No.: 1456

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

May 17, 2013

RESPONSE TO OFFICE ACTION

This paper is being filed in response to the Office Action mailed November 19, 2012

having a reply due date of May 19, 2013, with a three-month extension of time.

Reconsideration is respectfully requested in light of the amendments and remarks below. The

Office is hereby authorized to charge any fees required for entry of this paper to Deposit

Account 18-1167.

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [021] with the following amended paragraph:

[021] The panel assembly 60 comprises a plurality of solar panels 62 and a panel support frame 64 to support the solar panels. The panel support frame 64 comprises a central spine 66, a pair of laterally-spaced side members 68, and a plurality of longitudinally-spaced panel carriers 70, which can be removably connected by bolts and nuts, or other fasteners. The panel carriers ~~80~~ 70 include an inner end and an outer end. The inner end connects to the spine 66 and while the side member 78 connect to the outer ends of the panel carriers 70. The spine 66 in the exemplary embodiment is made from a metal tube, while the side members 68 and panel carriers are made of a metal channel. The panel carriers 70 taper from the inner end to the outer end. The side members 68 are spaced from the spine 66 so that the inner ends of the solar panels rest on a top surface of the spine 66, while the outer ends of the solar panels rest on a top surface of the side members 68. The panel carriers 70 are longitudinally-spaced so that the side edges of the solar panels 62 rest on the top surfaces of respective wing member 70. The solar panel 62 can be removably secured to the panel support frame 64 by bolts, screws, clamps, or other mechanical fastening devices.

AMENDMENTS TO THE DRAWINGS

Please replace original Fig. 5 with the attached replacement drawing Fig. 5.

AMENDMENTS TO THE CLAIMS

1. (Original) A solar tracker comprising:
a base forming an open pan for containing a ballast material;
a support frame mounted to said base;
a panel assembly rotatably mounted to said support frame, said panel assembly
including a plurality of solar panels; and
an actuator assembly for rotating the panel assembly to track the movement of the sun.
2. (Original) The solar tracker of claim 1 wherein said base comprises first and second sections that are movable between a storage position and deployed position, wherein the base forms said open pan in the deployed position for holding the ballast material and forms a carrier in the storage position including a closed compartment for containing disassembled components of the support frame and panel assembly.
3. (Original) The solar tracker of claim 2 wherein the panel assembly comprises:
a central spine rotatably mounted to the support frame; and
a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.
4. (Original) The solar tracker of claim 3 wherein panel carriers are removably connected to the spine and are configured to fit inside said closed compartment when said base is in the storage position.
5. (Original) The solar tracker assembly of claim 3 including a mounting assembly for rotatably mounting the panel assembly to the support frame, said mounting assembly comprising:

a mounting fork configured to be pivotally connected to said support frame; and
a slot in said mounting fork configured to receive the spine of the panel assembly.

6. (Original) The solar tracker assembly of claim 2 wherein the support frame includes two spaced end frames configured to be removably connected at respective ends of the base when the base is in the deployed position.

7. (Original) The solar tracker of claim 6 wherein the support frame includes two or more frame members that can be disassembled and placed inside said compartment of said base when said base is in the storage position.

8. (Original) The solar tracker of claim 1 wherein the panel assembly is mounted to rotate about an inclined rotational axis lying in a plane perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun.

9. (Currently amended) A solar system comprising:
a base having first and second section configurable in a deployed position and a storage position, said base forming an open pan for containing a ballast material in the deployed position and forming a carrier having an internal compartment ~~in~~ in the storage position;
a support frame removably mounted to said base, said support frame including one or more frame members configured to be contained in the internal compartment of the base when the base is configured in a storage position; and
a panel assembly removably mounted to said support frame, said panel assembly including an array of solar panels.

10. (Original) The solar system of claim 9 wherein the panel assembly comprises a central spine rotatably mounted to the support frame; and a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.
11. (Original) The solar system of claim 10 wherein panel carriers are removably connected to the spine and are configured to fit inside said internal compartment of said base when said base is in the storage position.
12. (Original) A solar system comprising:
a base comprising one or more base beams that rest on an underlying support surface;
a support frame mounted to said base;
a panel assembly mounted to said support frame, said panel assembly including a plurality of solar panels; and
one or more ballast containers configured to straddle at least one of the base beams for containing a ballast material to hold said solar tracker in place.
13. (Original) The solar system of claim 12 said panel assembly is rotatably mounted to said frame and further comprising an actuator assembly for rotating the panel assembly to track the movement of the sun.
14. (Original) The solar tracker of claim 13 wherein the panel assembly comprises a central spine rotatably mounted to the support frame; and a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.

15. (Original) The solar tracker assembly of claim 14 including a mounting assembly for rotatably mounting the panel assembly to the support frame, said mounting assembly comprising:

a mounting for configured to be pivotally connected to said support frame; and
a slot in said mounting fork configured to receive the spine of the panel assembly.

16. (Original) The solar tracker assembly of claim 15 wherein the support frame includes two spaced end frames configured to be removably connected at respective ends of the base when the base is in the deployed position.

17. (Original) The solar tracker of claim 12 wherein the panel assembly is mounted to rotate about an inclined rotational axis lying in a plane perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun.

REMARKS

In response to the official office action dated November 19, 2012, claim 9 has been amended to correct the informalities noted by the Examiner. Applicant respectfully submits that the claims are allowable over the prior art cited by the Examiner. Accordingly, reconsideration of the application in light of the following remarks is respectfully requested.

The claimed invention relates to a free standing solar tracker that can be used for both residential and commercial applications. The solar tracker comprises a base, a support frame, a panel assembly including one or more solar panels, and an actuator to rotate the solar panel to track the movement of the sun. The solar tracker is designed to be free-standing and requires no foundation. When the solar tracker is deployed, the base forms a pan to contain a ballast material for holding the base in place. The free-standing support enables the solar tracker to be deployed in any location with adequate exposure to the sun without the need for a foundation or other support structure already in place.

Claim 1 is directed to a solar tracker having a base forming an open pan for containing a ballast material. Claim 1 has been rejected under 35 U.S.C. §103(a) as being obvious over Dold (US 7,884,279) in view of Rebec (US 5,633,891). Applicant respectfully submits that Dold and Rebec do not teach all of the limitations of claim 1. Further, there is no motivation to combine the teachings of Dold and Rebec as suggested by the Examiner. Therefore, for reasons set forth more fully below, Dold and Rebec do not render the claimed invention obvious.

Dold discloses a solar tracker having a support frame, a panel assembly rotatably mounted to the support frame, and an actuator assembly for rotating the panel assembly to track the movement of the sun. However, Dold does not disclose a base forming an open pan for containing a ballast material as recited in claim 1. Rather, Dold discloses a base comprising support beams (36,38) with posts (40) that extend into the ground.

The Examiner recognizes that Dold fails to disclose a base forming an open pan for containing a ballast material. For the teaching of a base forming an open pan, the Examiner relies on Rebec.

Rebec discloses a portable satellite antenna with a carrying case (see Figs. 10A and 10B). The portable satellite antenna comprises a fabric umbrella dish that folds into a carrying case. Rebec teaches that the carrying case is light enough that a person of average strength can carry it by a handle. Rebec 14:46-57. The Examiner argues that it "would have been obvious to one skilled in the art at the time of the invention to combine the solar tracker taught by Dold with the base structures taught by Rebec in order to make a more portable and easily transported solar tracker." Final Office Action page 3. Applicant respectfully submits that the reasons proposed for combining Dold and Rebec are contrived in hindsight and that there is no real reason for combining these references as proposed by the Examiner.

First, the purpose of the base in the claimed invention is to provide support for the solar tracker. The solar tracker is intended to be installed at a fixed location for an extended period of time. It is not a portable device. It is a large and heavy device subject to wind loads, lifting forces and weather conditions. Rebec, in contrast, relates to a portable carrying case for a small, light-weight satellite antenna. The subject matter in Rebec is not in the same field of endeavor and is not related to the particular problem solved by the claimed invention. Therefore, applicant submits that Rebec is not analogous art.

Second, even assuming that Rebec is analogous prior art, there is no reason for modifying Dold as taught by Rebec. The problem solved in Rebec is how to provide a portable antenna system. That problem is solved in Rebec by providing a small, light-weight antenna that folds into its own carrying case. In contrast, the problem solved in the claimed invention is how to provide adequate support for a large, heavy structure that is subject to wind loads and weather conditions. The teachings in Rebec do not address the problems solved by the claimed invention. The solar tracker generally is a large, heavy structure which is intended to be

installed at a fixed location. There is no need in the claimed invention for a case to carry the solar tracker from one location to the other. The solar tracker is designed to remain in place for a fixed period of time. Therefore, a person skilled in the art would not look to Rebec for a solution to the problem of providing a support for a solar tracker.

Further, it is noted that Rebec itself does not provide a complete solution. The case in Rebec by itself would not provide adequate support for a solar tracker without a ballast material. Rebec never mentions use of a ballast material. Therefore, a person skilled in the art would not consider the carrying case to provide a solution to the problem of providing support for a solar tracker and therefor have no reason to combine the references.

For the foregoing reasons, it is respectfully submitted that claim 1 is patentable over Dold in combination with Rebec. Dependent claims 2-8 are patentable for the same reasons as claim 1.

Claim 9 is directed to a solar system comprising a base, a support frame removably mounted to the base, and a panel assembly removably mounted to the support frame. The panel assembly comprises an array of solar panels. The base comprises first and second sections configurable in a deployed position and a storage position. In the deployed position, the base forms an open pan for containing a ballast material. In the storage position, the base forms a carrier having an internal compartment, which may contain components of the solar system. In this embodiment, the base provides a compact structure for storage and transportation of the solar system.

Claim 9 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Dold in view of Meir (US 2009/0134291), and further in view of Rebec. Applicant respectfully submits that the claimed invention is not disclosed or suggested by the combination of Dold, Meir and Rebec.

The Dold and Rebec references have already been summarized above in the arguments addressing the rejection of claim 1. Meir discloses a system for mounting a solar panel on a rooftop. The mounting system comprises a ballast frame and support brackets mounted to the ballast frame for supporting the solar panel. The ballast frame in Meir does not does not form an open pan because the frame does not include a bottom. Rather, the ballast frame functions more like a rack into which concrete blocks are place. The ballast frame in Meir also does not comprise first and second sections that are configurable in a deployable position and a storage position.

To disclose the teaching of a base having first and second sections, the Examiner relies again on Rebec. As discussed above, Rebec discloses a portable carrying case for a small, light-weight satellite dish. The carrying case comprises two sections which are hinged together like a suitcase. In fact, Rebec refers to the carrying case as a suitcase. As discussed above, portability by hand is not a desired feature for a support structure for a solar tracker. Therefore, the teachings of a portable carrying case in Rebec is not analogous art. Even if Rebec is considered analogous art, there is no reason for a person skilled in the art to incorporate the teachings of Rebec into a solar tracker because portability of the solar tracker is not an issue. Accordingly, it is respectfully submitted that claim 9 is patentable over Dold in view of Meir and Rebec. Claims 10 and 11 depend from claim 9 and are patentable for the same reasons as claim 9.

Claim 12 is directed to a solar system comprising a base that rests on an underlying support surface, a support frame mounted to the base, a panel assembly including a plurality of solar panels mounted to the support frame, and one or more ballast containers configured to straddle at least one of the base beams for containing a ballast material. Claim 12 has been rejected under 35 U.S.C. §103(a) as being obvious over Dold in view of Meir. Applicant respectfully submits that neither Dold nor Meir disclosed the claimed ballast container configured to straddle a base beam as recited in claim 12.

The Examiner argues that Meir teaches one or more ballast containers as recited in claim 12. In support of this contention, the Examiner refers to paragraphs 5 and 6 in Meir. However, these paragraphs do not show a ballast container that straddles a base beam. Rather, these paragraphs refer to the ballast frame in Meir. The ballast frame in Meir comprises a plurality of frame members. Weighted objects, such as concrete blocks, are placed in the ballast frames as shown in Fig. 15. The frame members can be adjusted to accommodate concrete blocks of different sizes.

It is unclear from the office action what the Examiner considers to be the ballast containers. The ballast frame in Meir is analogous to the base in the claimed invention and the frame members in Meir are analogous to the base beams in the claimed invention. Meir does not disclose ballast containers that straddle the base beams as recited in claim 12.

A claim is not obvious unless the prior art discloses every limitation of the claims. The combination of Dold and Meir does not disclose a ballast container that straddles a base beam as recited in claim 12. Because the ballast container limitation is not disclosed by the combination, claim 12 is patentable over Dold and Meir. Claims 13-17 depend from claim 12 and are patentable for the same reasons as claim 12.

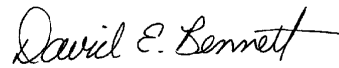
With regard to the objection to the drawings, a corrected Fig. 5 is submitted with this response. Corrected Fig. 5 includes the reference numbers 82 and 86 missing from the original Fig. 5.

With regard to the objection to the specification, the specification has been amended to correct the numbering error in paragraph 21.

With regard to the objection to claim 9, claim 9 has been amended to correct the typographical information noted by the Examiner.

For the foregoing reasons, it is respectfully submitted that all claims are patentable over the prior art cited by the Examiner and that the application is otherwise in condition for allowance.

Respectfully submitted,
COATS & BENNETT, P.L.L.C.



Dated: May 17, 2013

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Registration No.: 32,194
Telephone: (919) 854-1844

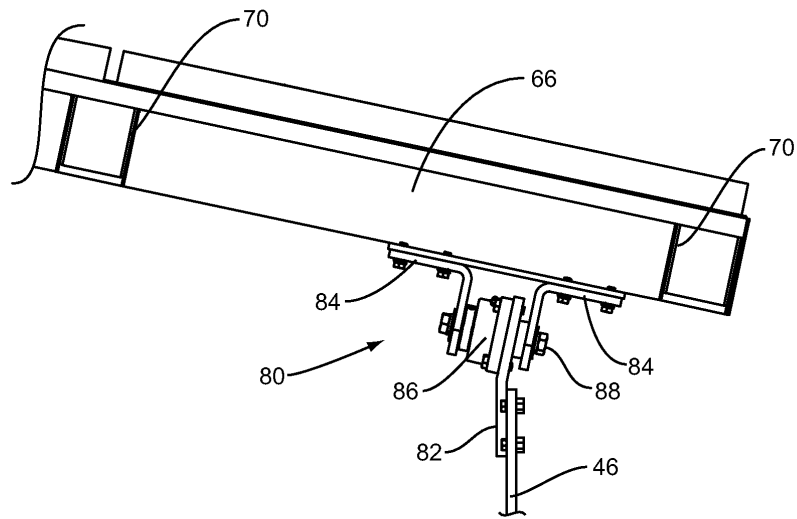


FIG. 5

Electronic Patent Application Fee Transmittal				
Application Number:		12830907		
Filing Date:		06-Jul-2010		
Title of Invention:		Solar Tracker		
First Named Inventor/Applicant Name:		Rovshan Sade		
Filer:		David E. Bennett/Donna Donovan		
Attorney Docket Number:		6445-001		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with \$0 paid	2253	1	700	700

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				700

Electronic Acknowledgement Receipt	
EFS ID:	15804631
Application Number:	12830907
International Application Number:	
Confirmation Number:	1456
Title of Invention:	Solar Tracker
First Named Inventor/Applicant Name:	Rovshan Sade
Customer Number:	24112
Filer:	David E. Bennett/Donna Donovan
Filer Authorized By:	David E. Bennett
Attorney Docket Number:	6445-001
Receipt Date:	17-MAY-2013
Filing Date:	06-JUL-2010
Time Stamp:	13:21:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	\$700
RAM confirmation Number	10069
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1		Response_to_OA.pdf	56677 1e1f87f59cd0e568960f8ddbae55b38711b4b1b4	yes	13
Multipart Description/PDF files in .zip description					
	Document Description	Start	End		
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1		
	Specification	2	2		
	Drawings-only black and white line drawings	3	3		
	Claims	4	7		
	Applicant Arguments/Remarks Made in an Amendment	8	13		
Warnings:					
Information:					
2	Drawings-only black and white line drawings	Replacement_Sheet.pdf	40303 580ca0a5c03abd352b916992039eab145bc3d3c	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	29766 d9f62ee136e6770d5fd83fd5b56e40a12989768	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			126746		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 12/830,907		Filing Date 07/06/2010		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED – PART I									
(Column 1)		(Column 2)							
FOR	NUMBER FILED	NUMBER EXTRA				RATE (\$)	FEE (\$)		
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A				N/A			
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A				N/A			
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A				N/A			
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*				X \$	=		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*				X \$	=		
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.						TOTAL			
APPLICATION AS AMENDED – PART II									
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	05/17/2013	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 17	Minus	** 20	= 0	x \$40 =		0	
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$210 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		0	
(Column 1)		(Column 2)		(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$		=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$		=	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/830,907	07/06/2010	Rovshan Sade	6445-001	1456
24112 7590 11/19/2012 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER HAILEY III, JOHN C	
			ART UNIT 4117	PAPER NUMBER
			MAIL DATE 11/19/2012	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	12/830,907	SADE, ROVSHAN	
	Examiner	Art Unit	
	JOHN C. HAILEY III	4117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 08 June 2010.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☒ Claim(s) 1-17 is/are pending in the application.

5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1-17 is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☒ The specification is objected to by the Examiner.

11) ☒ The drawing(s) filed on 08 June 2010 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some * c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/06/2010

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.

4) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: (82) and (86). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: in paragraph 21, the panel carrier, which are repeatedly cited as element (70) throughout the rest of the application, is cited as element (80). The rest of the application and drawings seem to indicate (80) is meant to be the mounting assembly. As a result, for the purposes of this action, it is assumed that an error was made and that the applicant intended to cite element (70) in paragraph 21.

Appropriate correction is required.

Claim Objections

3. Claim 9 objected to because of the following informalities: the clause "having an internal compartment *ion* the storage position" appears to be in error. Appropriate correction is required. For the purposes of this action, the phrase will be interpreted as reading "having an internal compartment *in* the storage position."

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 4117

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold (US 7884279) in view of Rebec (US 5633891)..

6. Regarding claim 1, Dold teaches a solar tracker comprising:

A support frame (30 and 32) mounted to the base;

A panel assembly (10) including a plurality of solar panels (12) rotatably mounted to the support frame; and

An actuator assembly (22 and 24) for rotating the panel assembly to track the movement of the sun.

Dold does not teach a base forming an open pan for containing a ballast material. Rebec teaches a base (1001) opening to form a pan for holding ballast. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base structures taught by Rebec in order to make a more portable and easily transported solar tracker. See Dold Fig. 1A and Rebec Fig. 10B.

7. Regarding claim 2, Dold and Rebec teach the limitations of claim 1 above. Rebec also teaches a base comprising first (1006) and second sections (1004) that are movable between a storage position and deployed position, wherein the base forms said open pan in the deployed position for holding the ballast material and forms a carrier in the storage position including a closed compartment for containing disassembled components of the support frame and panel assembly. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base structures taught by Rebec in order to make a more portable and easily transported solar tracker. See Rebec Fig. 10A.

8. Regarding claim 3, Dold and Rebec teach the limitations of claim 2 above. Dold also teaches a central spine (28a) rotatably mounted to the support frame; and a plurality of panel carriers (14) extending outwardly from said spine for supporting said solar panels. See Dold Fig. 2.

9. Regarding claim 4, Dold and Rebec teach the limitations of claim 3 above. Dold also teaches panel carriers (14) that are removably connected (42) to the spine. However, Dold does not teach that they are configured to fit inside a closed compartment when the base is in the storage position. Rebec teaches a device wherein the frame and structure of the device can be placed inside the base compartment (1001). As a result, one skilled in the art would readily recognize that the panel carriers taught by Dold would be suitable for storage inside of the base taught by Rebec in place of the remainder of the structure taught by Rebec. See Dold Fig. 5 and Rebec Fig. 10A.
10. Regarding claim 8, Dold and Rebec teach the limits of claim 1 above. Dold also teaches a panel assembly (10) mounted to rotate about an inclined rotational axis (A) such that the rotation of the panel assembly tracks changes in the azimuth of the sun (Column 2, Lines 24-60). Dold Fig. 1A.
11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dold and Rebec as applied to claim 3 above, in further view of Bellis (US 6494445)
12. Regarding claim 5, Dold and Rebec teach the limitations of claim 3 above, but do not teach a mounting assembly including a fork and slot. Bellis teaches a mounting assembly comprising a mounting fork (14) configured to be pivotally connected to a support frame (16 and 18); and a slot in said mounting fork configured to receive the element being supported (12). It would have been obvious to one skilled in the art at the time of invention to combine the device taught by Dold and Rebec with the mounting assembly taught by Bellis in order to make a solar tracker that may be more quickly and easily mounted and assembled. See Bellis Fig. 1.
13. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold and Rebec as applied to claim 2 above, in further view of Meir (US 2009/0134291).
14. Regarding claim 6, Dold and Rebec teach the limitations of claim 2 above, but do not teach removable end frames. Meir teaches two spaced end frames (17) configured to be removably connected at respective ends of the base when the base is in the deployed position. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base taught by Rebec in order to make a more easily transported solar tracker. It would have been obvious to one skilled in the art at the time of invention to further combine the solar tracker taught by Dold and

Art Unit: 4117

Rebec with the structure taught by Meir in order to make a solar tracker that could quickly assembled, disassembled, and relocated. See Meir Fig. 5 and Rebec Fig. 10A.

15. Regarding claim 7, Dold, Rebec, and Meir teach the limitations of claim 6 above. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with the base taught by Rebec in order to make a more easily transported solar tracker. However, none of the pieces of prior art individually teaches two or more frame members to be placed inside the base when in the closed position. Nonetheless, placing two or more frame members in a transportable base compartment would have been obvious to one skilled in the art at the time of invention. Meir teaches two frame members that can be easily disassembled for storage or transportation (17). Rebec teaches a device wherein the frame and structure of the device can be placed inside the base compartment (1001). As a result, one skilled in the art would readily recognize that the frame members taught by Meir would be suitable for storage inside of the base taught by Rebec in place of the remainder of the structure taught by Rebec. See Meir Fig. 5 and Rebec Fig. 10A.

16. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold in view of Meir, and Rebec.

17. Regarding claim 9, Dold teaches a solar system comprising a panel assembly (10) mounted to a support frame (30 and 32), including an array of solar panels (12). Dold does not teach a base for containing a ballast. Rebec teaches a base having first (1006) and second (1004) sections configurable in a deployed position and a storage position that forms an internal compartment. Meir teaches a solar system base (10) forming an open pan for containing a ballast material in its deployed position. It would have been obvious to one skilled in the art at the time of invention to combine the solar system taught by Dold with the base structures taught by Meir and Rebec in order to make a more portable and easily transported solar tracker. See Dold Fig. 2, Meir Fig. 1, and Rebec Fig. 10A.

18. Regarding claim 10, Dold, Meir, and Rebec teach the limitations of claim 9 as above. Dold also teaches a panel assembly comprising a central spine (28a) rotatably mounted to the support frame; and a plurality of panel carriers (14) extending outwardly from said spine for supporting solar panels. See Dold Fig. 2.

Art Unit: 4117

19. Regarding claim 11, Dold, Meir, and Rebec teach the limitations of claim 9 as above. Dold also teaches panel carriers (14) that are removably connected (42) to the spine. However, Dold does not teach that they are configured to fit inside a closed compartment when the base is in the storage position. Rebec teaches a device wherein the frame and structure of the device can be placed inside the base compartment (1001). As a result, one skilled in the art would readily recognize that the panel carriers taught by Dold would be suitable for storage inside of the base taught by Rebec in place of the remainder of the structure taught by Rebec. See Dold Fig. 5 and Rebec Fig. 10A.

20. Claims 12-14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold in view of Meir.

21. Regarding claim 12, Dold teaches a solar system comprising a base comprising one or more base beams (36a and 36b) that rest on an underlying support surface;
a support frame (30 and 32) mounted to said base;
a panel assembly (10) mounted to said support frame, said panel assembly including a plurality of solar panels (12);

Dold does not teach use of any separate ballast. Meir teaches one or more ballast containers (Paragraphs 005 and 0006) configured to straddle at least one of the base beams for containing a ballast material to hold a solar tracker in place. It would have been obvious to one skilled in the art at the time of invention to combine the solar system taught by Dold with the base structures taught by Meir in order to have a more securely held solar tracker. See Dold Fig. 2.

22. Regarding claim 13, Dold and Meir teach the limitations of claim 12 above. Dold also teaches a panel assembly that is rotatably mounted to said frame and further comprising an actuator assembly (22 and 24) for rotating the panel assembly to track the movement of the sun. See Dold Fig. 2.

23. Regarding claim 14, Dold and Meir teach the limitations of claim 13 above. Dold also teaches a panel assembly comprises a central spine (28a) rotatably mounted to the support frame; and a plurality of panel carriers (14) extending outwardly from said spine for supporting said solar panels. See Dold Fig. 2.

24. Regarding claim 17, Dold and Meir teach the limitations of claim 12 above. Dold also teaches a panel assembly that is mounted to rotate about an inclined rotational axis (A) lying in a plane

Art Unit: 4117

perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun. See Dold Fig. 2.

25. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dold and Meir as applied to claim 12 above, and further in view of Bellis.

26. Regarding claim 15, Dold and Meir teach the limitations of claim 14 as above, but do not teach a mounting assembly including a fork and slot. Bellis teaches a mounting assembly comprising a mounting fork (14) configured to be pivotally connected to a support frame (16 and 18); and a slot in said mounting fork configured to receive the element being supported (12). It would have been obvious to one skilled in the art at the time of invention to combine the device taught by Dold and Meir with the mounting assembly taught by Bellis in order to make a solar tracker that may be more quickly and easily mounted and assembled. See Bellis Fig. 1.

27. Regarding claim 16, Dold, Meir, and Bellis teach the limitations of claim 15 as above. Meir also teaches a support frame that includes two spaced end frames (17) configured to be removably connected at respective ends of the base when the base is in the deployed position. It would have been obvious to one skilled in the art at the time of invention to combine the solar tracker taught by Dold with Meir and Bellis in order to make a more portable and easily transported solar tracker. See Meir Fig. 5.

28. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. Taylor (US 2009/0293861), Hayden (US 6563040), Hutchinson (US 4178913), Benn (US 7898212), and Stuart (US 2061336).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN C. HAILEY III whose telephone number is (571)272-2515. The examiner can normally be reached on Monday - Thursday 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571)272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4117

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/J. C. H./
Examiner, Art Unit 4117

/CHARLES A. FOX/
Supervisory Patent Examiner, Art Unit 4117

Notice of References Cited	Application/Control No. 12/830,907		Applicant(s)/Patent Under Reexamination SADE, ROVSHAN	
	Examiner JOHN C. HAILEY III		Art Unit 4117	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,884,279	02-2011	Dold et al.	136/246
*	B	US-2009/0134291	05-2009	Meier et al.	248/222.14
*	C	US-5,633,891	05-1997	Rebec et al.	375/219
*	D	US-6,494,445	12-2002	Bellis, Jr., William B.	269/71
*	E	US-6,563,040	05-2003	Hayden et al.	136/244
*	F	US-2009/0293861	12-2009	Taylor et al.	126/600
*	G	US-2,061,336	11-1936	KIMBERLY STUART	126/25R
*	H	US-4,178,913	12-1979	Hutchison, J. A.	126/601
*	I	US-7,898,212	03-2011	Benn et al.	320/101
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	93332	ballast near/2 straddle	US-PGPUB; USPAT	OR	ON	2012/11/06 09:33
S2	2033	S1 with container	US-PGPUB; USPAT	OR	ON	2012/11/06 09:34
S3	0	("2011/0095956").URPN.	USPAT	OR	ON	2012/11/06 09:36
S4	686	343/840.ccls.	USPAT	OR	ON	2012/11/06 09:37
S5	33	S4 and portable	USPAT	OR	ON	2012/11/06 09:38
S6	50	("4868578" "4994816" "4998114" "5334990" "5337062" "5528250").PN. OR ("5646638").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:40
S7	42	("2994870" "3646564" "3805281" "3918065" "4804972").PN. OR ("5019833").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:44
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S9	16	("1906546" "3832717" "4783662" "4825223").PN. OR ("5334990").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:48
S10	23	("3263232" "4086599" "4185288" "4232320" "4404565" "4458251" "4771293").PN. OR ("4994816").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:49
S11	9	("20040196207" "4998114" "5019833" "5334990" "5760751" "6462718").PN. OR ("7218289").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/06 09:51
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S17	1	("7884279").PN.	US- PGPUB; USPAT	OR	OFF	2012/11/06 10:03
S18	21	("20020074034" "20020121298" "20030070705" "20040025931" "20040055631" "20050081908" "20050133082" "4256088" "4404565" "4830678" "4930493" "5022929" "5269851" "5317145" "5986203" "6080927" "6284968" "6662801" "6780365").PN. OR ("7884279").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:03
S19	30	"4178913"	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:04
S20	1	("4178913").PN.	US- PGPUB; USPAT	OR	OFF	2012/11/06 10:05
S21	26	("2712772" "3847136" "4063543" "4064865" "4079725").PN. OR ("4178913").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/06 10:05
S22	269	248/505.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:20
S23	17	ballast near table	US- PGPUB; USPAT	OR	ON	2012/11/06 10:27
S24	196	248/461.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S25	251	248/455.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S26	388	248/688.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S27	98	248/685.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:47
S28	45	248/136.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/06 10:48

S29	466	248/150.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:48
S30	662	248/165.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:50
S31	866	248/174.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:50
S32	269	248/505.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:50
S34	344	126/569.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:54
S35	32	126/627.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 10:54
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S37	1	("5916047").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:55
S38	1	("5632480").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S39	1	("4226256").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S40	1	("4063963").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S41	1	("4644933").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:56
S42	1	("7884279").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S43	1	("4108154").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S44	1	("20030070705").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S45	1	("6563040").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S46	1	("2473047").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:57
S47	1	("7898212").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:58
S48	0	(41/789913).APP.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:58

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EAST Search History

S49	1	("4178913").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:58
S50	1	("6494445").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/06 10:59
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S57	413	126/600.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 16:39
S58	65805	"126".clas.	US-PGPUB; USPAT	OR	ON	2012/11/06 16:39
S59	238	S58 and solar same portable	US-PGPUB; USPAT	OR	ON	2012/11/06 16:40
S60	0	136/245.ccls	US-PGPUB; USPAT	OR	ON	2012/11/06 17:07
S61	379	136/245.ccls.	US-PGPUB; USPAT	OR	ON	2012/11/06 17:07
S62	299	fold\$4 with ballast	US-PGPUB; USPAT	OR	ON	2012/11/07 08:01
S63	294	fold\$4 with stove	US-PGPUB; USPAT	OR	ON	2012/11/07 08:22
S64	294	S63 not S62	US-PGPUB; USPAT	OR	ON	2012/11/07 08:22

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S65	1	("2061336").URPN.	USPAT	OR	ON	2012/11/07 08:56
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S67	27	("1323567" "1626035" "1943585" "2714465" "3288050" "3481267" "3610225" "3812839" "4106473").PN. OR ("4548192").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 09:02
S68	5	("2907316" "3130719").PN. OR ("3903867").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 09:04
S69	40	("0718412" "1130747" "1372032" "1645421" "1881475" "2020503" "2055564" "2511594" "2515521" "2852016" "2922414" "4624238" "4911140" "5119799" "5425520").PN. OR ("5906196").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 09:04
S70	160	collaps\$3 with ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 10:53
S71	299	fold\$4 with ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 10:54
S72	149	S70 not S71	US- PGPUB; USPAT	OR	ON	2012/11/07 10:54
S73	137	pan with ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 11:40
S74	1	("5526010").PN.	US- PGPUB; USPAT	OR	OFF	2012/11/07 11:51
S75	0	("1435346").URPN.	USPAT	OR	ON	2012/11/07 12:35
S76	758	fold\$4 same ballast	US- PGPUB; USPAT	OR	ON	2012/11/07 12:55
S77	459	S76 not S71	US- PGPUB; USPAT	OR	ON	2012/11/07 12:56
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S80	36	S79 and (ballast or portable)	USPAT	OR	ON	2012/11/07 13:24
S81	3	S79 and ballast	USPAT	OR	ON	2012/11/07 13:25
S82	306	343/880.ccls.	USPAT	OR	ON	2012/11/07 13:31
S83	776	343/840.ccls.	US- PGPUB; USPAT	OR	ON	2012/11/07 13:32
S84	36	S83 and (ballast or portable)	USPAT	OR	ON	2012/11/07

						13:32
S85	7091	fold\$4 with antenna	US-PGPUB; USPAT	OR	ON	2012/11/07 13:39
S86	3791	S85 and base	US-PGPUB; USPAT	OR	ON	2012/11/07 13:39
S87	62	S86 and ballast	US-PGPUB; USPAT	OR	ON	2012/11/07 13:46
S88	1	("6,682,029").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/07 13:54
S89	1	("5,760,751").PN.	US-PGPUB; USPAT	OR	OFF	2012/11/07 13:54
S91	1817	S90 and sand	US-PGPUB; USPAT	OR	ON	2012/11/07 13:59
S92	86	S90 same sand	US-PGPUB; USPAT	OR	ON	2012/11/07 14:00
S93	2	("2002/0036008").URPN.	USPAT	OR	ON	2012/11/07 14:05
S94	8	("20020036008" "4296693" "4924893" "5169111" "5452877" "6164613" "6446649" "7168437").PN. OR ("8047217").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:05
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S96	261	S95 and fold\$4	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:06
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S98	48	126/571.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:10
S99	36	126/662.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/11/07 14:14
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S102	47	126/626.ccls.	US-PGPUB;	OR	ON	2012/11/07 14:49

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			USPAT; USOCR			
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S104	34	126/697.ccls.	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:26
S105	727375	portable sandbox	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:31
S106	9	portable near sandbox	US- PGPUB; USPAT; USOCR	OR	ON	2012/11/07 16:31
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S109	4497266	remov\$4 near/3 (panel adj array)	US- PGPUB; USPAT	OR	ON	2012/11/08 09:08
S110	4499579	remov\$4 near/3 (panel adj supports)	US- PGPUB; USPAT	OR	ON	2012/11/08 09:08
S111	12766	panel adj supports	US- PGPUB; USPAT	OR	ON	2012/11/08 09:09
S112	784	S111 with remov\$4	US- PGPUB; USPAT	OR	ON	2012/11/08 09:09
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EAST Search History

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11/ 13/ 2012 4:45:15 PM

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file:///C:/Users/jhailey/Documents/e-Red%20Folder/12830907/EASTSearchHistory.12830907_AccessibleVersion.htm[11/13/2012 4:45:17 PM]

Search Notes 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner JOHN C HAILEY III	Art Unit 4117

SEARCHED			
Class	Subclass	Date	Examiner
126	569, 600	11/5/12-11/8/12	JCH
136	245	11/5/12-11/8/12	JCH
248	461, 505, 150, 165, 688, 685, 136	11/5/12-11/8/12	JCH

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor name search, consulted Primary Examiner Avinash Savani, east text (attached), class searches, fwd/bkwd searches	11/5/12-11/8/12	JCH

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/J.C.H./ Examiner: Art Unit 4117	
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<i>Index of Claims</i> 	Application/Control No. 12830907	Applicant(s)/Patent Under Reexamination SADE, ROVSHAN
	Examiner JOHN C HAILEY III	Art Unit 4117

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant			☐ CPA			☐ T.D.			☐ R.1.47			
CLAIM			DATE									
Final	Original	11/13/2012										
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	16	✓										
	17	✓										

Receipt date: 07/06/2010

12830907 - GAU: 4117

PTO/SB/08a (05-07)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2010-07-06
	First Named Inventor	Sade	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	6445-001	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6105316		2000-08-22	Bottger	
	2	5916047		1999-06-29	Schickert et al.	
	3	5632480		1997-05-27	Davis et al.	
	4	4226256		1980-10-07	Hawley	
	5	4063963		1977-12-20	Bond, Jr.	
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.C.H

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2010-07-06
	First Named Inventor	Sade	
	Art Unit		
	Examiner Name		
Attorney Docket Number		6445-001	

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							☐

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
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Examiner Signature	/J. Crockett Hailey, III/	Date Considered	11/13/2012
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/830,907	07/06/2010	Rovshan Sade	6445-001

CONFIRMATION NO. 1456

PUBLICATION NOTICE

24112
COATS & BENNETT, PLLC
1400 Crescent Green, Suite 300
Cary, NC 27518



0000000051959865

Title:Solar Tracker

Publication No.US-2012-0006317-A1

Publication Date:01/12/2012

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The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/830,907	07/06/2010	3749	462	6445-001	17	3

CONFIRMATION NO. 1456

24112
COATS & BENNETT, PLLC
1400 Crescent Green, Suite 300
Cary, NC 27518

FILING RECEIPT



OC00000042605492

Date Mailed: 07/20/2010

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Rovshan Sade, Raleigh, NC;

Power of Attorney: The patent practitioners associated with Customer Number 24112

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 07/15/2010

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/830,907**

Projected Publication Date: 01/12/2012

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Solar Tracker

Preliminary Class

126

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	Filing Date		2010-07-06
	First Named Inventor	Sade	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	6445-001	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6105316		2000-08-22	Bottger	
	2	5916047		1999-06-29	Schickert et al.	
	3	5632480		1997-05-27	Davis et al.	
	4	4226256		1980-10-07	Hawley	
	5	4063963		1977-12-20	Bond, Jr.	
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	Filing Date		2010-07-06
	First Named Inventor	Sade	
	Art Unit		
	Examiner Name		
Attorney Docket Number		6445-001	

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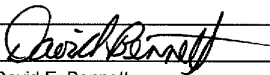
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		2010-07-06
	First Named Inventor	Sade	
	Art Unit		
	Examiner Name		
Attorney Docket Number		6445-001	

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):			
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☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.			
☒ None			
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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.			
Signature		Date (YYYY-MM-DD)	2010-07-06
Name/Print	David E. Bennett	Registration Number	32194
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Application Number:				
Filing Date:				
Title of Invention:		Solar Tracker		
First Named Inventor/Applicant Name:		Rovshan Sade		
Filer:		David E. Bennett/Kathleen Koppen		
Attorney Docket Number:		6445-001		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
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Utility Search Fee	2111	1	270	270
Utility Examination Fee	2311	1	110	110
Pages:				
Claims:				
Miscellaneous-Filing:				
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Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				462

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EFS ID:	7960096
Application Number:	12830907
International Application Number:	
Confirmation Number:	1456
Title of Invention:	Solar Tracker
First Named Inventor/Applicant Name:	Rovshan Sade
Customer Number:	24112
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1		6445-001.pdf	1328819 f5395a6a308fc57a41d0b2b70eab2c9a829a844c	yes	31
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	Document Description	Start	End		
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	Specification	4	12		
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	Abstract	17	17		
	Drawings-only black and white line drawings	18	26		
	Oath or Declaration filed	27	28		
	Information Disclosure Statement (IDS) Filed (SB/08)	29	31		
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6445-001
		Application Number	
Title of Invention	Solar Tracker		
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		☐ Party of Interest under 35 U.S.C. 118		
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Application Information:

Title of the Invention	Solar Tracker		
Attorney Docket Number	6445-001	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	9	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6445-001
		Application Number	
Title of Invention	Solar Tracker		

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).			
Remove			
Application Number	Country [†]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☒ Yes ☐ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

Assignee Information:

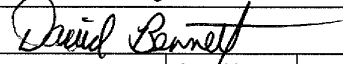
Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.
Assignee 1

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6445-001
		Application Number	
Title of Invention	Solar Tracker		

If the Assignee is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information:				
Address 1				
Address 2				
City		State/Province		
Country		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee Data may be generated within this form by selecting the Add button.				

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature				Date (YYYY-MM-DD)	2010-07-06
First Name	David	Last Name	Bennett	Registration Number	32194

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

SOLAR TRACKER

BACKGROUND

[001] The present invention relates generally to solar panels for generating solar energy and, more particularly, to a free-standing solar tracker with a rotating panel assembly to track the movement of the sun during the day.

[002] Photovoltaic panels, or solar panels, have been used for a long time in commercial and residential applications. A solar panel typically comprises a plurality of photovoltaic cells, also known as solar cells, that convert sunlight into electricity. In most commercial or residential applications, a large array of solar panels is needed to generate enough energy to have any practical effect. Thus, the use of solar panels requires a relatively large amount of open space exposed to direct sunlight. Most often, solar panels are mounted on the roofs of homes and buildings. In most installations, the solar panels are mounted in a fixed position to maximize the exposure when the sun is at its peak.

[003] Conventional solar systems have not gained widespread acceptance for a number of reasons, including the cost of the solar systems, the availability of adequate space, and aesthetic reasons. Conventional solar systems typically cost more than other available energy sources. The added expense of solar systems is an impediment to adoption of solar systems. Also, many people who are willing to pay the extra cost of a solar system may not be able to do so because they lack adequate space exposed to the sun. Others may consider solar panels mounted on the roofs of homes to be aesthetically unappealing. Concerns over the aesthetics of the solar panels are another impediment to adoption of solar systems.

[004] Therefore, there is a continuing need for a solar system that is relatively inexpensive, that can be deployed in a relatively small area, and overcome concerns regarding aesthetics of the solar panels.

SUMMARY

[005] The present invention provides a free-standing solar tracker that can be used for both residential and commercial applications. The solar tracker comprises a base, a support frame, a panel assembly including one or more solar panels, and an actuator to rotate the solar panel to track the movement of the sun. The solar tracker is designed to be free-standing and requires no foundation. When the solar tracker is deployed, the base forms a pan to contain a ballast material for holding the base in place. Thus, the solar tracker can be easily moved to a site with adequate exposure to the sun.

[006] The solar tracker is designed to be relatively inexpensive to build and operate. Additionally, the ability to track the movement of the sun significantly increases the output of the solar panel assembly, thus increasing the user's return on the investment in the solar system. The free-standing support enables the solar tracker to be deployed in any location with adequate exposure. Also, the ability to deploy the solar tracker in any desired location means that the solar tracker can be deployed in locations that will not detract from the appearance of the owner's home or building.

BRIEF DESCRIPTION OF THE DRAWINGS

[007] Fig. 1 is perspective views of a solar tracker according to a first exemplary embodiment of the invention with its solar panel in a first rotational position.

[008] Fig. 2 is perspective views of a solar tracker according to the first exemplary embodiment of the invention with its solar panel in a second rotational position.

[009] Fig. 3 is a front elevation of the solar tracker.

[010] Fig. 4 is a side elevation of the solar tracker.

[011] Figs. 5 and 6 illustrate the mounting of the panel assembly to the support frame.

[012] Fig. 7 illustrates the actuator assembly and mounting of the panel assembly to the support frame.

[013] Fig. 8 illustrates the base of the solar tracker with disassembled components of a support frame and panel assembly stored inside the base.

[014] Fig. 9 illustrates the base of the solar tracker closed to contain the disassembled components of a support frame and panel assembly.

[015] Fig. 10 illustrates a second embodiment of the solar tracker.

[016] Fig. 11 illustrates a third embodiment of the solar tracker.

DETAILED DESCRIPTION

[017] Referring now to the drawings, a solar tracker 10 according to the present invention is shown. The solar tracker 10 generally comprises a base 20, support frame 40, panel assembly 60, and actuator assembly 90 for rotating the panel assembly 60 to follow the azimuth of the sun as it moves across the sky. The solar tracker 10 is designed to be free-standing and requires no foundation. Thus, the solar tracker 10 can be easily moved between sites. The base 20 of the solar tracker is designed to serve as a "suitcase" to contain most of the components of the solar tracker 10, making it easier to transport the solar tracker 10 to a location where the solar tracker is installed.

[018] The base 12 of the solar tracker 10 is formed in two sections 22 that are connected to one another by a hinge 24. The base sections 22 are movable between an open or deployed position (Figs. 1-5) and a closed or storage position (Fig. 56). Each section 22 comprises a pair of side members 26 and a pair of end members 28 forming a generally-rectangular frame. The side members and end members may be constructed of a metal tubing, metal channel, or metal beam. A bottom sheet 30 made of a sheet metal is fixedly attached to the frame such as by welding to form an open pan in the deployed position. Separators 32 are spaced longitudinally between the end

members 28 and extend between the side members 26. The separators 32 may be inserted into tracks or channels (not shown) in the side members 26 so that the separators can be removed. In a preferred embodiment, the separators 32 are formed of a sheet metal and extend approximately two-thirds the height of the side members 26. The separators 32 prevent the ballast material from shifting and help maintain the ballast material evenly distributed over the pan formed by the base 20. In use, the base sections 22 are unfolded so that they lie side-by-side. The base sections 22 can then be bolted together in the open position or may be held together by the hinge 24.

[019] The support frame 40 mounts to the base 20. The support frame 40 comprises front frame 42 and a rear frame 52. The front frame 42 comprises a pair of legs 44, a gusset plate 46, and a strut 50, which may be made of metal and removably connected together by bolts and nuts, or other suitable fasteners. The legs 44 may be made of rigid material, such as a metal angle. The legs 44 extend upwardly at an angle from the one end of the base 20. The lower ends of the legs 44 are bolted or otherwise secured to respective end members 28 of the base 20. The upper end of the legs 44 are connected by a gusset plate 46, which may be made of a metal plate. The gusset plate 46 provides rigidity to the frame 42, as well as provides a surface for mounting the panel assembly 60 as hereinafter described. Strut 50 is made of a rigid material, such as a metal angle, and provides lateral stability for the front frame 42. The strut 50 is connected at the lower end to the side members 26 of the base 20, and at the upper end to the gusset plate 46 of the frame 42.

[020] The rear frame 50 includes a pair of legs 52, gusset plate 52, and strut 56, which may be made of metal and removably connected together by bolts and nuts, or other suitable fasteners. The legs 52 extend upwardly at an angle from respective end members 28 of the base 20. The lower ends of the legs 52 are bolted or otherwise secured to the end members 28, while the upper ends of the legs 52 are connected by

the gusset plate 54, which may be made of a metal plate. Strut 56 extends between the base 20 and gusset plate 54 to provide lateral stability to the rear frame 52. It may be noted that the rear frame 50 is tilted at a slight angle relative to the base 20, whereas the front frame 42 is perpendicular to the base 20. The exact orientation of the frames 42, 50, however, is not material. Depending on the size of the frame 42, reinforcing members 58 may be provided to interconnect the legs 52 at spaced locations.

[021] The panel assembly 60 comprises a plurality of solar panels 62 and a panel support frame 64 to support the solar panels. The panel support frame 64 comprises a central spine 66, a pair of laterally-spaced side members 68, and a plurality of longitudinally-spaced panel carriers 70, which can be removably connected by bolts and nuts, or other fasteners. The panel carriers 80 include an inner end and an outer end. The inner end connects to the spine 66 and while the side member 78 connect to the outer ends of the panel carriers 70. The spine 66 in the exemplary embodiment is made from a metal tube, while the side members 68 and panel carriers are made of a metal channel. The panel carriers 70 taper from the inner end to the outer end. The side members 68 are spaced from the spine 66 so that the inner ends of the solar panels rest on a top surface of the spine 66, while the outer ends of the solar panels rest on a top surface of the side members 68. The panel carriers 70 are longitudinally-spaced so that the side edges of the solar panels 62 rest on the top surfaces of respective wing member 70. The solar panel 62 can be removably secured to the panel support frame 64 by bolts, screws, clamps, or other mechanical fastening devices.

[022] The panel assembly 60 is rotatably mounted to the support frame 40 so as to rotate about a single, inclined axis. Fig. 5 shows a first mounting assembly 80 for securing the lower end of the panel assembly 60 to the front support frame 42. The first mounting assembly 80 comprises a connecting plate 82, L-shaped mounting brackets 84, bearing 86, and a pivot member 88. The connecting plate 82 is bolted, welded, or

otherwise secured to the gusset plate 46 of the front frame 42. The connecting plate 82 is bent at a slight angle to provide the desired tilt for the rotational axis of the panel assembly 60. Mounting brackets 84 are bolted or welded to the spine 66 of the panel support frame 64. The upper end of connecting plate 82 and bearing 66 are disposed between the brackets 86. Pivot member 88, such as a bolt, passes through the mounting brackets 84, connecting plate 82, and bearing 86, and is secured by a conventional nut threaded onto the end of the pivot member 88.

[023] Figs. 6 and 7 shows a second mounting assembly 90 for mounting the upper end of the panel support frame 64 to the rear support frame 50. The second mounting assembly 90 comprises a connecting plate 92, a pair of mounting forks 94, a bearing 96, and a pivot member 98. Connecting plate 92 is secured by bolts or other mechanical fasteners to the gusset plate 56 of the rear support frame 50. The mounting forks 94 include a slot 95 to receive the spine 66 of the panel support frame 64. The mounting forks 94 may be permanently fixed to the spine 66 by welding. Bearing 96 is disposed between the lower end of the mounting forks 94. Pivot member 98 extends through the mounting forks 94, upper end of connecting plate 92, and bearing 96, and is secured in place by a nut threaded onto the end of the pivot member 98.

[024] Pivot member 88 on the first mounting assembly 80 and pivot member 98 on the second mounting assembly 90 are co-axially aligned along the axis and rotation of the panel assembly 60. The rotational axis inclines upwardly from front to rear in a plane perpendicular to the base 20. The rotational axis is aligned when deployed so that the plane of the rotational axis aligns with the sun at the highest altitude. Thus, the panel assembly 60 can rotate to track the path of the sun as the sun travels across the sky during the day.

[025] Actuator assembly 100, shown in Fig. 7, comprises a pivot arm 102, fluid cylinder 102, and control unit 106. Pivot arm 102 is connected at one end to the spine 66 of the

panel support frame 64. Pivot arm 102 extends outward from the spine 66. Fluid cylinder 104 is connected at one end to the pivot arm 102 and the opposite end to the front Frame. Control unit 106 is mounted to the front Frame and controls operation of the fluid cylinder 104. The extension of the fluid cylinder 104 rotates the panel assembly 60 in a first direction, while retraction of the fluid cylinder 104 rotates the panel assembly 60 in the opposite direction. The control unit 106 preferably includes a processor and associated memory for controlling the rotation of the panel assembly 60. The control unit 106 may store ephemeris data in memory that gives the position of the sun in the sky at different times of the day. Alternatively, the position of the sun in the sky at different times of day may be calculated based on formulas that model the sun's movement. As the azimuth of the sun changes, the control unit 106 rotates the panel assembly 60 to minimize as much as possible the angle of incidence of the sun rays on the solar panels 62. It is noted that the panel assembly 60 rotates about a single axis that follows the azimuth of the sun. Those skilled in the art will appreciate that it is also possible to change the angle of inclination of the solar panels to track changes in the altitude of the sun.

[026] As previously noted, the solar tracker 10 is designed so that most of the components can be disassembled and packaged in the base 20. Fig. 8 shows the base 20 with the base sections 22 folded open. Fig. 9 shows the panel carriers 70 stored in one of the base sections 22. Components of the support frame 40 may, likewise, be disposed in one of the base sections. Essentially all of the components, with the exception of the spine 66 and solar panels 62, will fit inside the base sections 22. The base sections 22 can then be folded to a closed position as shown in Fig. 9 to form a suitcase with a compartment containing most of the solar tracker components.

[027] Fig. 10 shows a second embodiment of the solar tracker. This embodiment is the same as the first embodiment except for the construction of the base, which is

designated by reference number 120 in this embodiment. The base 120 comprises an I-shaped frame having center beam 122 and a pair of end beam 124. The end beams 124 may be secured to the center beam 122 by bolting, welding, or other suitable means. In the illustrated embodiment, the center beam 122 and end beams are metal I-beams. Those skilled in the art will appreciate that the center beam 122 and end beams 124 may also comprise metal channels, metal tubes, or other structural members.

[028] The base 120 is designed to lie on a flat surface. The base 120 is held in place by specially-designed ballast containers 130 that contain a ballast material, such as sand, gravel, water, etc. In the exemplary embodiment shown in Fig. 6, the ballast containers 130 comprise open containers having a bottom 132, side walls 134, and open top 136. A channel 138 is formed in the bottom 132 of the ballast containers 130 so that the center beam 122 of the base 120 can pass through the ballast containers 130 as shown in Fig. 10. Thus, the ballast containers 130 effectively straddle the center beam 122 of the base 120. Once the ballast containers 130 are placed on the center beam 122 as shown in Fig. 100, the ballast containers 130 can be filled with a ballast material (e.g., gravel, sand, water, etc) to hold the base 120 in place.

[029] While the embodiment shown in Fig. 6 contains the ballast material in open ballast containers 130, those skilled in the art will appreciate that closed ballast containers 130 could also be used. For example, the ballast container 130 may comprise a closed container with a fill hole for filling the ballast container 130 with water or other fluid. The ballast container 130 could be formed with handle or other features for carrying the ballast containers 130. The ballast containers 130 may also have features for stacking and/or nesting the ballast containers 130.

[030] Fig. 11 shows a third embodiment of the solar tracker. Like, the previous embodiment the base 120 comprises an I-shaped frame having center beam 122 and a pair of end beam 124. The end beams 124 may be secured to the center beam 122 by

bolting, welding, or other suitable means. In the illustrated embodiment, the center beam 122 and end beams are metal tubes. Those skilled in the art will appreciate that the center beam 122 and end beams 124 may also comprise metal channels, metal I-beams, or other structural members.

[031] The base 120 is designed to lie on a flat surface. The base 120 is held in place by anchor members 140 that are embedded in the ground or other support surface. Anchor brackets 142 connect the anchor members to the end beams 124 of the base 120.

[032] The present invention provides a free-standing solar tracker 10 that can be easily transported to a desired location and installed. The solar tracker assembly 10 is designed to be free-standing and does not require any foundation. The solar tracker 10 rests on the surface of the ground and is held in place by ballast material. If desired, the solar tracker assembly 10 may be placed on a concrete pad, but there is no need in most instances to fasten the solar tracker to the concrete pad. However, those skilled in the art will appreciate that tie-down straps or other securing devices could be used in conjunction with the ballast material, particularly where very high winds are expected. The base of the solar tracker assembly is designed to serve as a "suitcase" for transporting the components of the solar tracker 10. As noted previously, most of the components of the solar tracker, with the exception of the spine 66 and solar panels 72, can be packaged within the base 20 for transportation and storage.

[033] The present invention may, of course, be carried out in other specific ways than those herein set forth without departing from the scope and essential characteristics of the invention. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, and all changes coming within the meaning and equivalency range of the appended claims are intended to be embraced therein.

CLAIMS

What is claimed is:

1. A solar tracker comprising:
 - a base forming an open pan for containing a ballast material;
 - a support frame mounted to said base;
 - a panel assembly rotatably mounted to said support frame, said panel assembly including a plurality of solar panels; and
 - an actuator assembly for rotating the panel assembly to track the movement of the sun.
2. The solar tracker of claim 1 wherein said base comprises first and second sections that are movable between a storage position and deployed position, wherein the base forms said open pan in the deployed position for holding the ballast material and forms a carrier in the storage position including a closed compartment for containing disassembled components of the support frame and panel assembly.
3. The solar tracker of claim 2 wherein the panel assembly comprises:
 - a central spine rotatably mounted to the support frame; and
 - a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.
4. The solar tracker of claim 3 wherein panel carriers are removably connected to the spine and are configured to fit inside said closed compartment when said base is in the storage position.

5. The solar tracker assembly of claim 3 including a mounting assembly for rotatably mounting the panel assembly to the support frame, said mounting assembly comprising:
- a mounting fork configured to be pivotally connected to said support frame; and
 - a slot in said mounting fork configured to receive the spine of the panel assembly.
6. The solar tracker assembly of claim 2 wherein the support frame includes two spaced end frames configured to be removably connected at respective ends of the base when the base is in the deployed position.
7. The solar tracker of claim 6 wherein the support frame includes two or more frame members that can be disassembled and placed inside said compartment of said base when said base is in the storage position.
8. The solar tracker of claim 1 wherein the panel assembly is mounted to rotate about an inclined rotational axis lying in a plane perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun.
9. A solar system comprising:
- a base having first and second section configurable in a deployed position and a storage position, said base forming an open pan for containing a ballast material in the deployed position and forming a carrier having an internal compartment in the storage position;
 - a support frame removably mounted to said base, said support frame including one or more frame members configured to be contained in the internal

compartment of the base when the base is configured in a storage position; and
a panel assembly removably mounted to said support frame, said panel assembly including an array of solar panels.

10. The solar system of claim 9 wherein the panel assembly comprises a central spine rotatably mounted to the support frame; and a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.

11. The solar system of claim 10 wherein panel carriers are removably connected to the spine and are configured to fit inside said internal compartment of said base when said base is in the storage position.

12. A solar system comprising:
a base comprising one or more base beams that rest on an underlying support surface;
a support frame mounted to said base;
a panel assembly mounted to said support frame, said panel assembly including a plurality of solar panels; and
one or more ballast containers configured to straddle at least one of the base beams for containing a ballast material to hold said solar tracker in place.

13. The solar system of claim 12 said panel assembly is rotatably mounted to said frame and further comprising an actuator assembly for rotating the panel assembly to track the movement of the sun.

14. The solar tracker of claim 13 wherein the panel assembly comprises a central spine rotatably mounted to the support frame; and a plurality of panel carriers extending outwardly from said spine for supporting said solar panels.

15. The solar tracker assembly of claim 14 including a mounting assembly for rotatably mounting the panel assembly to the support frame, said mounting assembly comprising:

a mounting fork configured to be pivotally connected to said support frame; and
a slot in said mounting fork configured to receive the spine of the panel
assembly.

16. The solar tracker assembly of claim 15 wherein the support frame includes two spaced end frames configured to be removably connected at respective ends of the base when the base is in the deployed position.

17. The solar tracker of claim 12 wherein the panel assembly is mounted to rotate about an inclined rotational axis lying in a plane perpendicular to the base such that the rotation of the panel assembly tracks changes in the azimuth of the sun.

ABSTRACT

A free-standing solar tracker comprises a base, a support frame, a panel assembly comprising one or more solar panels, and an actuator to rotate the panel assembly to track the movement of the sun. The solar tracker is designed to be free-standing and requires no foundation. When the solar tracker is deployed, the base forms a pan to contain a ballast material for holding the base in place. The base of the solar tracker is designed to serve as a "suitcase" to contain most of the components of the solar tracker, making it easier to transport the solar tracker 10 to a location where the solar tracker is installed.

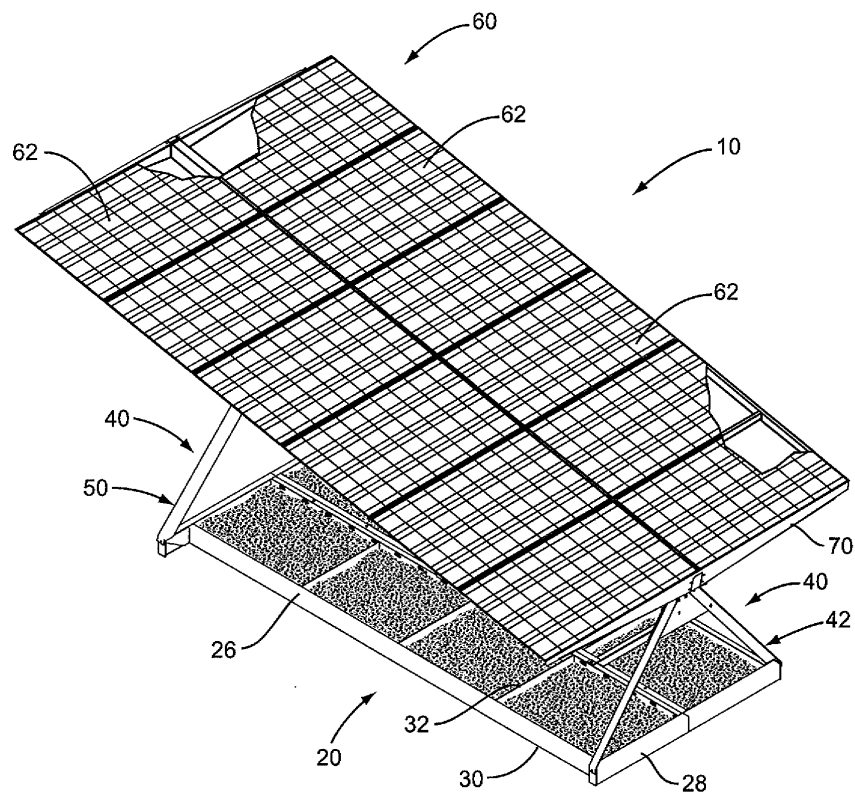


FIG. 1

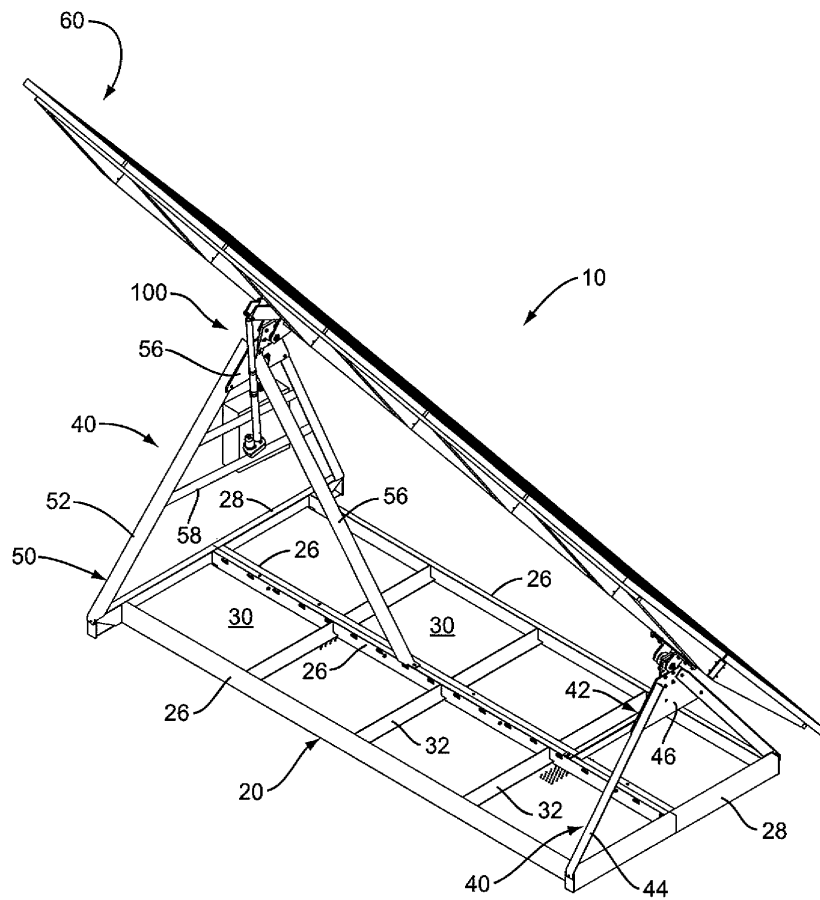


FIG. 2

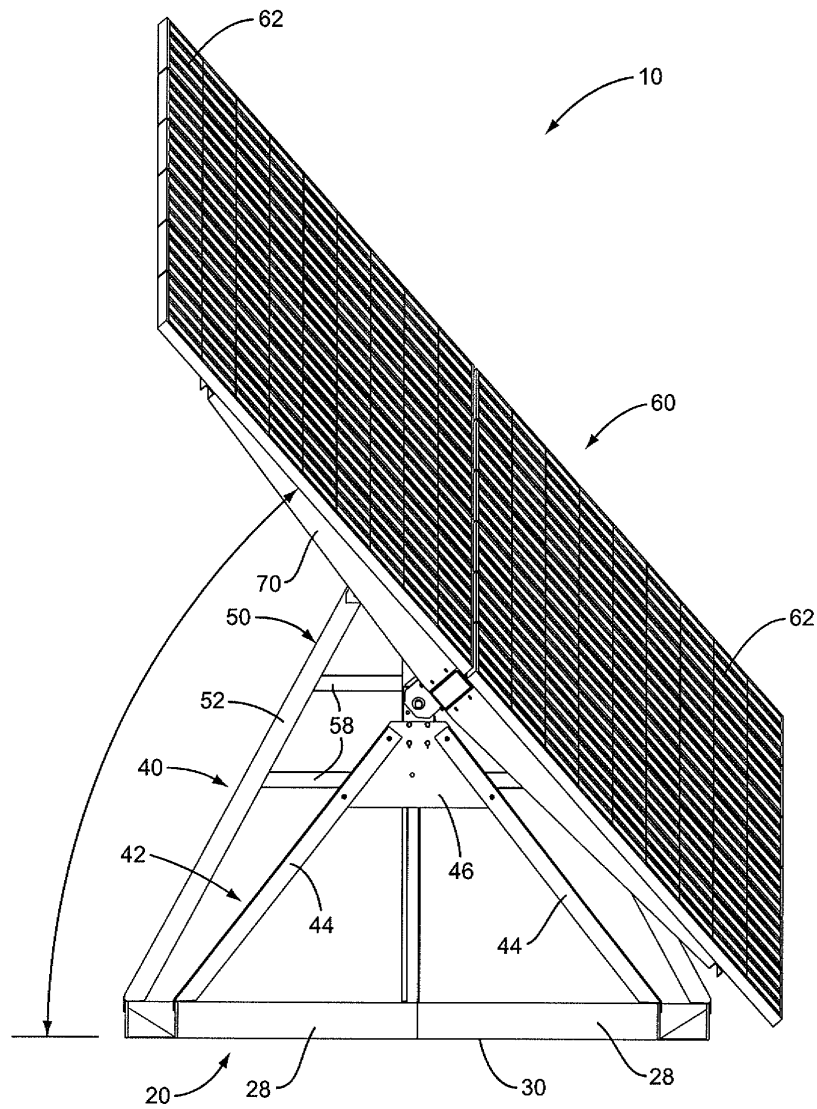


FIG. 3

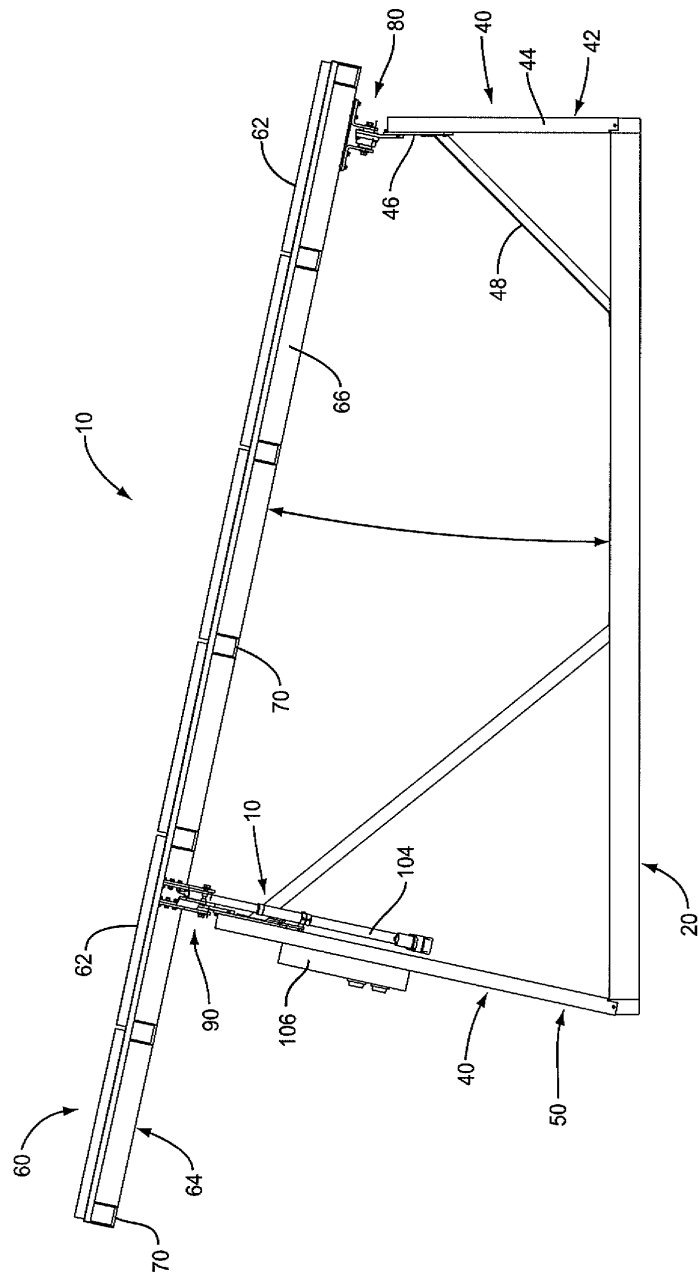


FIG. 4

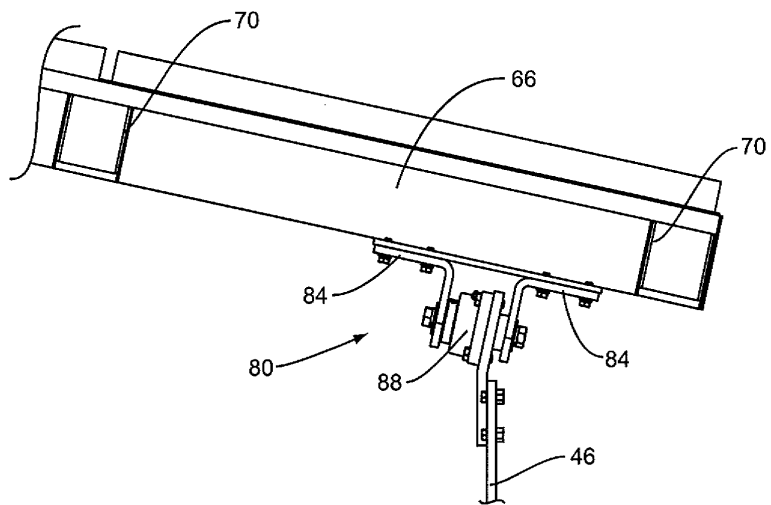


FIG. 5

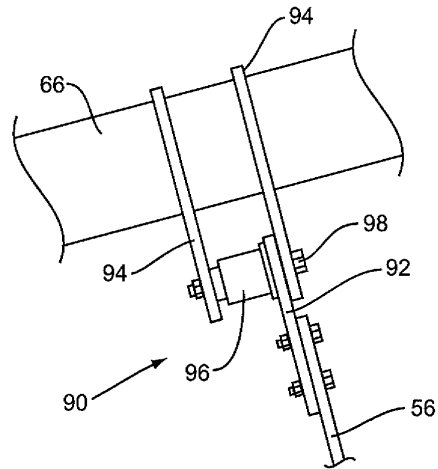


FIG. 6

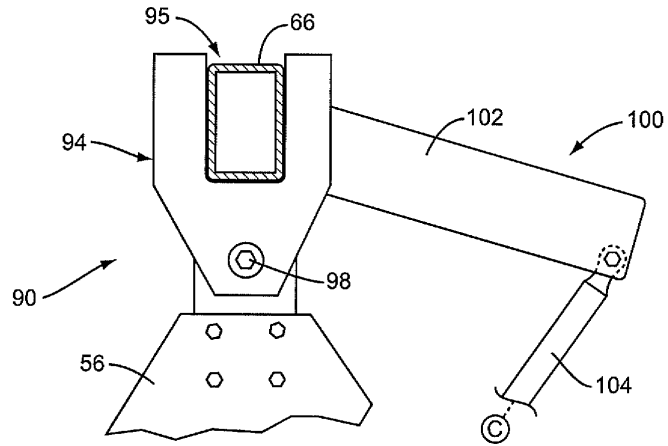


FIG. 7

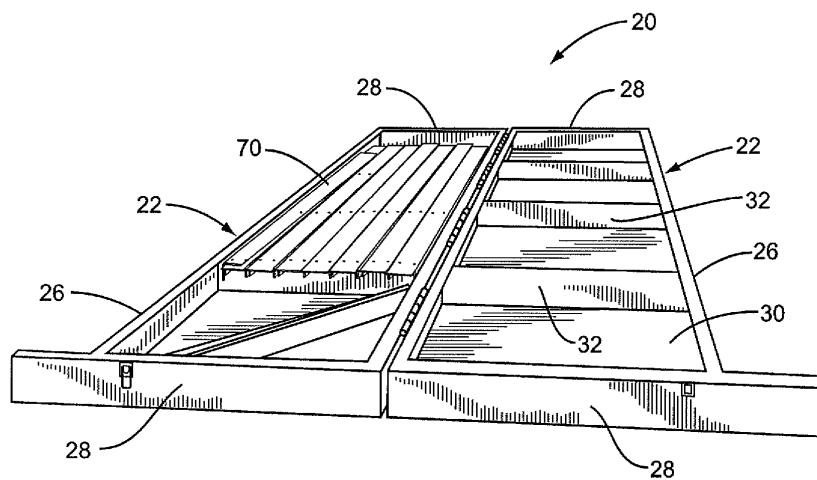


FIG. 8

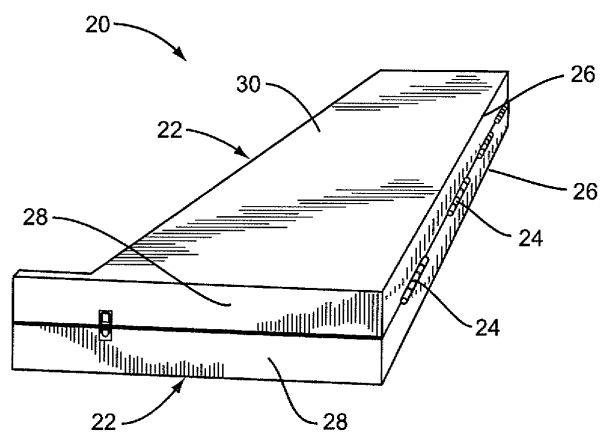


FIG. 9

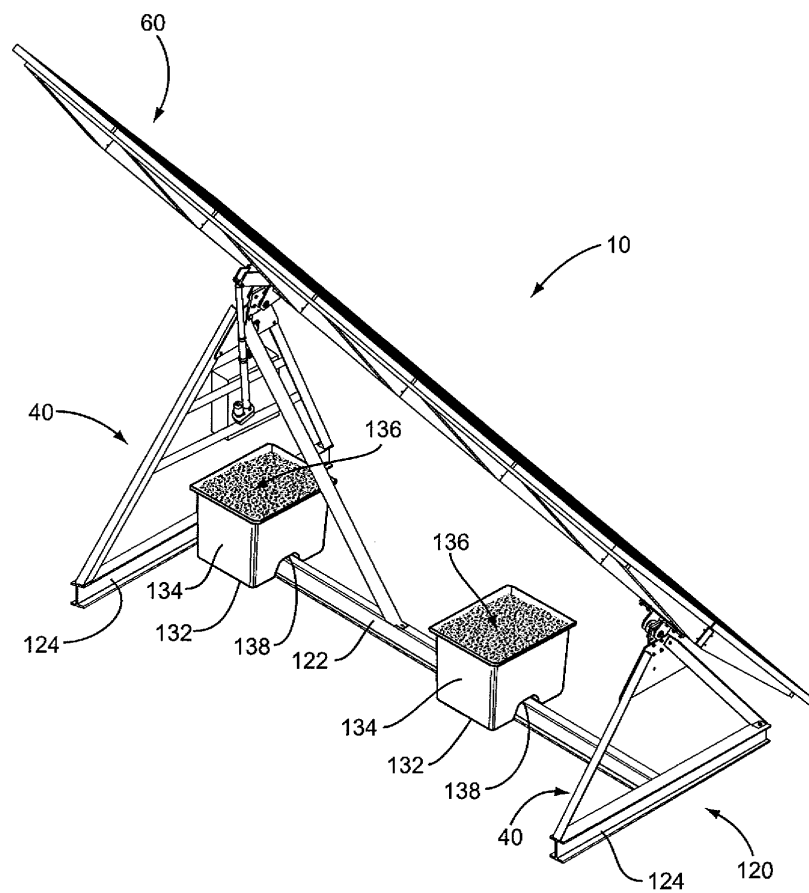


FIG. 10

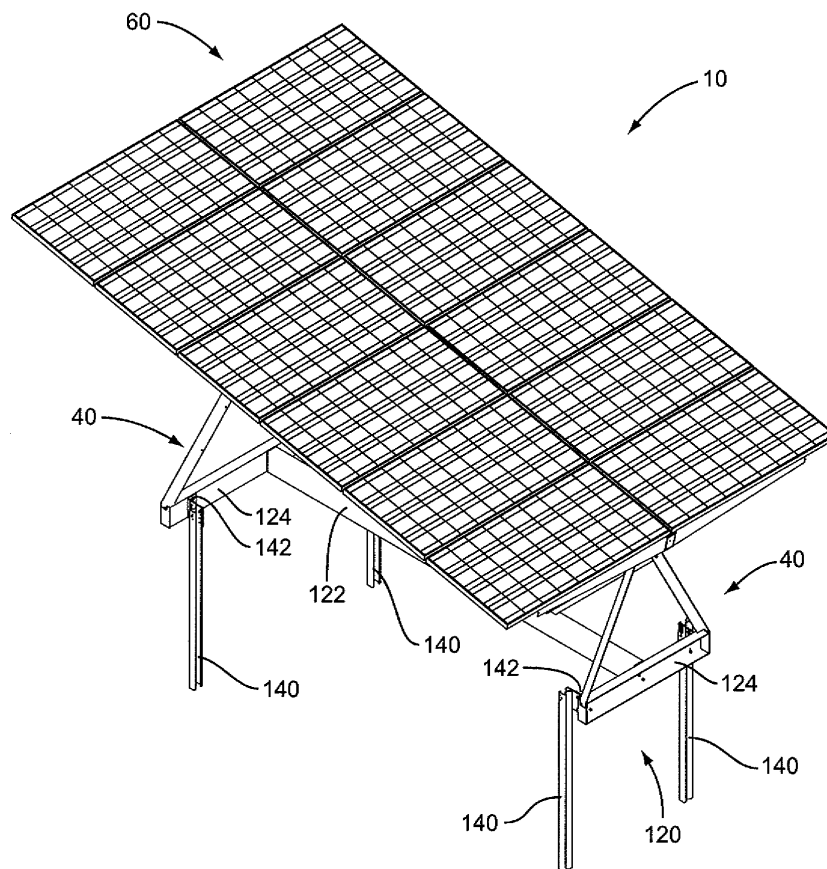


FIG. 11

RULE 63 (37 C.F.R. 1.63)

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: **SOLAR TRACKER**, the specification of which (check applicable box(es)):

- ☒ is attached hereto;
☐ was filed on _____ as U.S. Application Serial No.
☐ was filed as PCT international application No. PCT/_____/_____ on _____ and
(if applicable to U.S. or PCT application) was amended on _____.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with 37 C.F.R. 1.56.

I hereby claim priority benefits under 35 U.S.C. 119/365 of any U.S. Provisional or foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed or, if no priority is claimed before the filing date of this application:

Prior U.S. Provisional or

Foreign Application(s):

Application Number

Country

Day/Month/Year Filed

I hereby claim the benefit under 35 U.S.C. 120/365 of all prior United States and PCT international applications listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in such prior application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose material information as defined in 37 C.F.R. 1.56 which occurred between the filing date of the prior applications and the national or PCT international filing date of this application:

Prior U.S./PCT Application(s):

Prior Application Serial No.

Day/Month/Year Filed

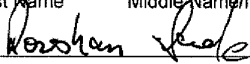
Status: patented, pending, abandoned

I hereby declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Further, I hereby appoint the Attorneys and Patent Agents of **Coats & Bennett, PLLC** as identified by **Customer Number 24112** in the records of the United States Patent and Trademark Office and as updated from time to time, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. Direct all correspondence to David E. Bennett:

24112

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date : 07/06/10

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 12/830,907	
APPLICATION AS FILED – PART I						
(Column 1)		(Column 2)		SMALL ENTITY		OR
FOR	NUMBER FILED	NUMBER EXTRA		RATE (\$)	FEE (\$)	OTHER THAN SMALL ENTITY
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	82	N/A
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	270	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	110	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	17	minus 20 =		x\$26		x\$52
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *		x\$110		x\$220
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR					
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				195		390
				TOTAL	462	TOTAL
* If the difference in column 1 is less than zero, enter "0" in column 2.						
APPLICATION AS AMENDED – PART II						
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	X =	
	Independent (37 CFR 1.16(h))	*	Minus ***	=	X =	
	Application Size Fee (37 CFR 1.16(s))				N/A	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				TOTAL ADD'T FEE	
(Column 1)		(Column 2)		(Column 3)		OR
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	X =	
	Independent (37 CFR 1.16(h))	*	Minus ***	=	X =	
	Application Size Fee (37 CFR 1.16(s))				N/A	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				TOTAL ADD'T FEE	
(Column 1)		(Column 2)		(Column 3)		OR
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)	ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	X =	
	Independent (37 CFR 1.16(h))	*	Minus ***	=	X =	
	Application Size Fee (37 CFR 1.16(s))				N/A	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				TOTAL ADD'T FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.