

Search history

Search 1: STAC=(structure and coupling and photovolt* and panel* and support) and PD<20180619 (Results 156)

Search 2: STAC=(structure and coupling and photovolt* and panel* and support) and PD<20180619 and IC=(E04H or F24J) (Results 66)

Search 3: TI=(structure and (shelter or ceiling or roof)) and FT=(coupling and support and panel and (photovoltaic or solar) and colum*) (Results 5)

Search 4: TI=(structure) and FT=(coupling and support and panel and (photovoltaic or solar) and colum* and (shelter or ceiling or roof)) (Results 84)

Search 5: TI=(structure) and FT=((coupling or joint) and support and panel and (photovoltaic or solar) and colum* and (shelter or ceiling or roof) and engage*) (Results 59)

Search 6: STAC=(structure and modul* and coupling* and engagement) and PD<20180619 (Results 1369)

Search 7: TI=(support and angage* and (roof or shelter or ceiling)) and STAC=(structure and modul* and coupling* and engagement) and PD<20180619 (Results 0)

Search 8: FT=(support and engage* and (roof or shelter or ceiling)) and STAC=(structure and modul* and coupling* and engagement) and PD<20180619 (Results 195)

Search 9: FT=((tooth* or teeth*) and support and engage* and (roof or shelter or ceiling)) and STAC=(structure and modul* and coupling* and engagement) and PD<20180619 (Results 47)

Search 10: TI=(shade and structure) and FT=(support and joint and male and female and panel) (Results 1)

Search 11: TI=(structure) and FT=(support and joint and male and female and panel) (Results 390)

Search 12: TI=(structure) and FT=(support and joint and male and female and panel and (photov* or solar)) (Results 39)

Search 13: TI=(structure) and FT=(support and ((joint and male and female) or coupl*) and panel) (Results 9274)

Search 14: TI=(structure) and FT=(support and ((joint and male and female) or coupl*) and panel and (photov* or solar)) (Results 848)

Search 15: TI=(structure) and AB=(cover*) and FT=(support and ((joint and male and female) or coupl*) and panel and (photov* or solar)) (Results 146)

Search 16: TI=(structure) and AB=(cover* and (coupl* or joint)) and FT=(support and ((joint and male and female) or coupl*) and panel and (photov* or solar)) (Results 54)

Title: SOLAR ENERGY COLLECTION SYSTEM

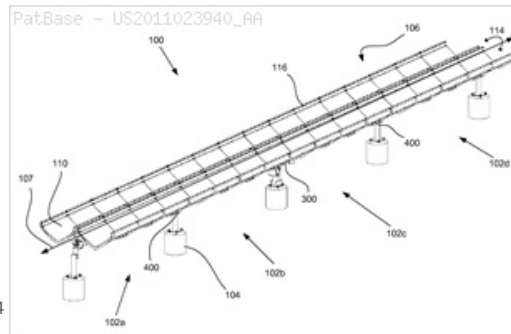
Abstract: In one aspect of the present invention, a solar energy collection system that includes multiple longitudinally adjacent collectors is described. The collectors are coupled end to end to form a collector row. The collector row extends along a longitudinal axis and is arranged to rotate about a pivot axis to track the sun in at least one dimension. Each collector includes a reflector, one or more solar receivers and a support structure. The support structure includes a tube assembly that underlies the reflector. The tube assemblies of the collector row are arranged end to end along the longitudinal axis. There is a space between the tube assemblies of adjacent collectors in the collector row, where the reflectors of the adjacent collectors extend beyond the underlying tube assemblies to form a substantially continuous reflective surface over the space. A coupling device is positioned in the space between the tube assemblies. The coupling device connects and helps to rotate the tube assemblies of the adjacent collectors. Some embodiments relate to various types of coupling devices and collector arrangements.

Classifications:

International (IPC 8-9): F24J2/10 F24J2/12 F24J2/38 F24J2/52 F24J2/54 F24S23/70 F24S50/20 G01C21/02 G01C21/24 G01J1/20 H01L31/0232 H01L31/042 H01L31/052 H02N6/00 (Advanced/Invention)
CPC: Y02E10/60 Y02E10/41 Y02E10/44 Y02E10/47 Y02E10/52 Y02E10/45 H02S20/32 H02S40/22 F24S20/20 F24S23/80 F24S25/10 F24S25/617 F24S30/425 F24S70/65 F24S23/74 F24S25/13 F24S23/79 F24S2023/832 F24S2023/87 F24S2023/878 H02S20/00 H02S40/44 H01L31/0547

European: F24J2/04F2 F24J2/07 F24J2/10B F24J2/14 F24J2/18 F24J2/52A20B8 F24J2/52A8 F24J2/54B4 H01L31/042B H01L31/052B H01L31/052B3 H01L31/058 R24J2/10A4 R24J2/10P R24J2/10P10 R24J2/14 R24J2/52A8C Y02E10/41 Y02E10/44 Y02E10/45 Y02E10/47 Y02E10/52

US: 126/576 126/694 126/696 136/246 136/259 136/259S 250/203.4 250/216 250/239



Family:

Publication number	Publication date	Application number	Application date
TW201211476 A	20120316	TW20110101650	20110117
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Priority:

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Probable Assignee: SKYLINE SOLAR INC

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Assignee(s): TRIPLEPOINT CAPITAL LLC

Inventor(s): (std): ACKLER HAROLD D ; CHAU MANG V ; DO KHIEM B ; FINOT MARC A ; GABBIANELLI GIANFRANCO ; IGNAUT BRIAN J ; JOHNSON ERIC C ; JULIAN DOMINICO P ; LANCE TAMIR ; LANGWORTHY KEVIN R ; WYLIE CAMERON G

Agent(s): BEYER LAW GROUP LLP; YOON ERIC ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

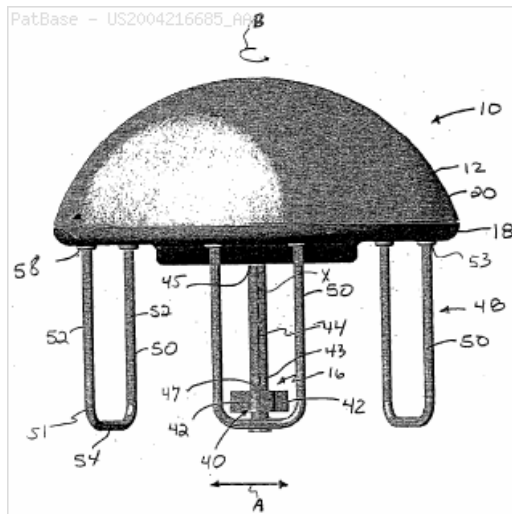
Title: WATER AGITATION SYSTEM FOR WATER RETENTION **STRUCTURE**

Abstract: A water agitation system for use with a water retention **structure**, such as a bird bath or livestock water trough, includes a motor operatively connected to a drive shaft, and a blade assembly extending outwardly from the drive shaft. The motor is operable to rotate the blade assembly in order to impart motion to water retained within the water retention

structure.

Classifications:

International (IPC 8-9): A01K29/00 A01K45/00 A01K63/04
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C02F (Subclass/Invention)
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366/343 366/343S 374/E13.001 374/E13.001S 374/E3.001 374/E30.01S 392/441 392/441P 392/471 392/497 392/498
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Family:

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Assignee(s): (std): ALLIED PREC IND INC ; REUSCHE THOMAS K ; OWEN DONALD B ; BLAHNIK JOE ; CHUMBLEY PHILIP E ; MCHUGH JAMES R ; UNIV VERMONT

Assignee(s): UNIVERSITY OF VERMONT AND STATE AGRICULTURAL COLLEGE ; MILLER MFG CO ; OF VERMONT AND STATE AGRICULTURAL COLLEGE UNIV ; ALLIED PRECISION IND ; ALLIED PRECISION IND INC ; ALLIED PRECISION INDUSTRIES INC ; AMERICAN CHARTERED BANK

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Agent(s): BORDEN LADNER GERVAIS LLP; MCANDREWS HELD AND MALLOY LTD; WOLF GREENFIELD AND SACKS PC; JOSEPH M; SMALL PATENT LAW GROUP; THE SMALL PATENT LAW GROUP LLC; SMALL PATENT LAW GROUP LLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: COMPOSITE BUILDING AND **PANEL** SYSTEMS

Abstract: A building **panel structure** is disclosed, in which composite building **panels** are used to form a **structure**. A composite building **panel** is disclosed which includes a core and a coating applied over the core. In some embodiments the core consists of a frame and one or more than one insulating structural block. The insulating structural blocks can be encapsulated polystyrene (EPS) foam blocks. In some embodiments the coating includes an inner scratch layer and an outer main brown layer. The inner scratch layer can be formed of at least two layers. The outer main brown layer can include a fiberglass mesh embedded into the outer main brown layer. A method of forming a building **panel structure** is disclosed which includes forming a core using a frame and one or more than block, applying an inner scratch layer to the core, and applying an outer main brown layer over the inner scratch layer.

Classifications:

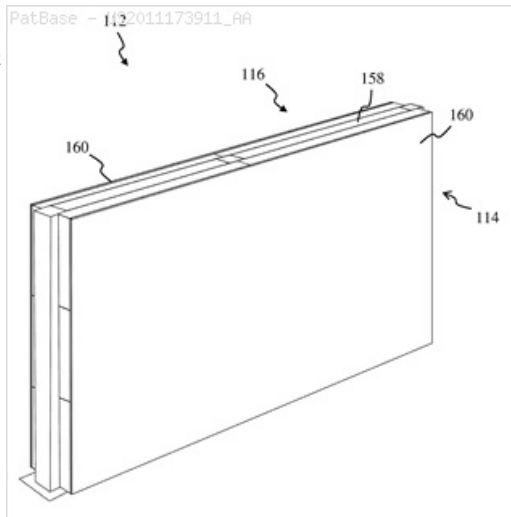
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International (IPC 1-7): E04C2/32

CPC: B32B37/18 B05D1/36 B32B3/06 B32B3/08 B32B3/18 B32B5/245 B32B13/045 B32B13/14 B32B2307/304 B32B2307/584 B32B2307/712 B32B2471/00 B32B2607/02 E04B1/14 B32B5/022 B32B15/046 B32B21/047 B32B2037/243 E04F13/02 C04B2111/00586 E04D1/16 E04D1/30 B32B3/30 B32B5/02 B32B13/04 B32B2260/021 B32B2260/046 B32B2419/00 E04B1/762 E04C1/40 E04C2/049 E04C2/288 E04C2/2885 Y02E10/44 Y10T428/24521 Y10T29/49622 Y10T29/49629 Y10T29/49826 Y10T156/10 E04C2/243 B32B13/02 B32B2266/0228 E04C2/043 E04C2/044 Y10T442/10 Y10T442/171 Y10T442/176 B23B2260/044 C04B14/06 C04B14/42 C04B20/0076 C04B24/2641 C04B14/30 E04B1/66 E04B1/941 E04B2/02 E04F13/0869 E04F13/0885 E04F13/14 E04B2002/0202 E04C2/34 Y02B30/94 E04C2/384 E04B1/945 E04B2001/925 E04C2/28 E04C2/246 E04G23/0296 E04F13/0866 B32B5/18 B32B5/26 B32B17/02 B32B2260/023 B32B2260/044 B32B2262/101 B32B2419/06 B32B2607/00 C04B28/04 C04B2111/00612 C04B2111/28 C04B2111/80 E04B7/22 E04C2/296 E04D1/28 E04D3/352 Y02B10/20 Y02A30/261 F24S20/67 F24S20/69

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**Family:**

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Probable Assignee: PROPST FAMILY PARTNERSHIP LTD

Assignee(s): (std): PORPST FAMILY LTD PARTNERSHIP ; PORPST FAMILY LTD PARTNERSHIP LLC ; PROPST FAMILY LIMITED ; PROPST FAMILY LTD PARTNERSHIP LLC ; PROPST JOHN EUGENE ; PROPST JOHN ; PROPST FAMILY PARTNERSHIP LTD ; PROPST FAMILY LTD PARTNERSHIP ; PROPST FAMILY LTD PARYNERSHIP ; PROPST FAMILY LTD ; PROPST FAMILY LP

Assignee(s): PROPST FAMILY PARTNERSHIP LLC LTD ; PROPST FAMILY PARYNERSHIP LTD ; PORPST FAMILY PARTNERSHIP LLC LTD ; PORPST FAMILY PARTNERSHIP LTD ; PROPST FAMILY LIMITED PARTNERSHIP ; PROPST FAMILY LIMITED PARTNERSHIP LLC ; GILEAD SCIENCES INC FOSTER CITY ; PORPST FAMILY LIMITED PARTNERSHIP ; PORPST FAMILY LIMITED PARTNERSHIP LLC

Inventor(s): (std): PROPST FAMILY PARTNERSHIP LTD ; PROPST JOHN EUGENE ; PROPST JOHN EUGEN ; PROPST FAMILY LIMITED ; PROPST JHON EUGENE ; JOHN EUGENE PROPST ; PROPST FAMILY LIMITED PARTNERSHIP

Inventor(s): JHON EUGENE PROPST ; WATKINS WILLIAM J SARATOGA ; MORGANELLI PHILIP ANTHONY OAKLAND ; MERTZMAN MICHAEL BELMONT ; LEW WILLARD SAN MATEO ; LAZERWITH SCOTT E SAN FRANCISCO ; DOERFFLER EDWARD UNION CITY ; CLARKE MICHAEL O NEIL HANRAHAN REDWOOD CITY ; CHONG LEE S NEWARK ; CANALES EDA SAN MATEO

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SHAPIRO COHEN; MILTONS IP PI; AVENTUM IP LAW LLP; OLMEDO BUSTOS LUIS IGNACIO; SILVA AND CIA PATENTES Y MARCAS LTDA; LUZ CLEMENCIA DE PAEZ; KUHNEN AND WACKER; WOLFF BREGMAN AND GOLLER; INO SARI; KURASAWA ICHIRO; MATSUSHITA MITSURU; DESHIMARU TAKESHI; KUMAKURA YOSHIO; SCHMEISER OLSEN AND WATTS LLP; SCHMEISER ALBERT L ET AL; JACHIMOWICZ KAREN E ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **SOLAR** COLLECTOR **SUPPORT** WINGS FOR EFFICIENT STORAGE AND DEPLOYMENT OF **SOLAR** COLLECTORS ON A MOBILE **STRUCTURE**

Abstract: Deployable wings **supporting solar** collector arrays for mobile **structures** and associated methods of use are disclosed that provide significant power generation capacity, easy deployment, shaded work areas, and protection for **solar** collector arrays during transport. Some embodiments include a **support** surface configured to be hingedly **coupled** to a vehicle, a plurality of **support** rails extending away from the **support** surface to form at least one cavity, a **solar** collector array **coupled** to the **support** surface and within the at least one cavity, and at least one retractable **cover** configured to selectively **cover** the at least one cavity.

Classifications:

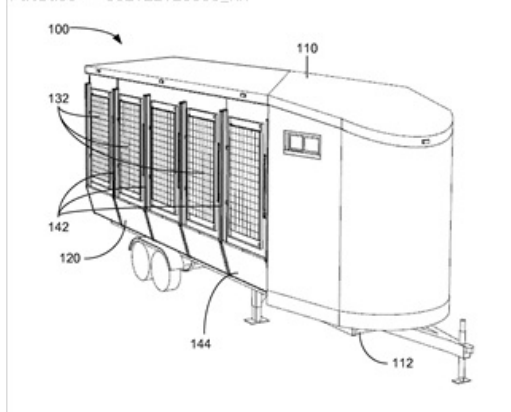
International (IPC 8-9): B60P3/00 B62D21/00 B62D25/06 B62D25/20 B62D63/08 E04D13/18 E04H1/00 F24J2/00 F24J2/02 F24J2/38 F24J2/40 F24J2/46 F24J2/52 H01L31/042 H02S10/40 H02S20/10 H02S30/20 (Advanced/Invention); F24J2/54 (Advanced/Non-invention)

CPC: B60P3/00 H02S20/00 Y02B10/12 Y02B10/20 Y02E10/47 Y02E10/50 B62D21/00 B62D25/06 B62D63/08 H02S10/40 H02S20/10 H02S30/20 F24S25/70 F24S30/425

European: Y02B10/20 Y02B40/18 Y02B40/82 Y02E10/47

US: 1/1 126/570 126/601 126/601S 126/680 126/680S 126/714 126/714S 280/475 296/171 296/204 296/204P 296/24.3 52/173.3 52/173.300S 52/79.5 52/79.500P 52/795

PatBase - US2011023863_AA



Family:

Publication number	Publication date	Application number	Application date
US2011023863 AA	20110203	US20100845678	20100728
US2011023864 AA	20110203	US20100845696	20100728
US2011025101 AA	20110203	US20100845062	20100728
US2011047891 AA	20110303	US20100844603	20100727
US2014117694 AA	20140501	US20140148688	20140106
US2016001691 AA	20160107	US20150854018	20150914
US8622454 BB	20140107	US20100845062	20100728
US8720125 BB	20140513	US20100844603	20100727
US9132764 BB	20150915	US20140148688	20140106
US9573510 BB	20170221	US20150854018	20150914

Priority:

US20090271925P 20090728	US20100844603 20100727	US20100845678 20100728
US20100845696 20100728	US20100845062 20100728	US20140148688 20140106
US20150854018 20150914		

Probable Assignee: ANDRETICH MICAH F

Assignee(s): (std): ANDRETICH MICAH F

Inventor(s): (std): ANDRETICH MICAH F

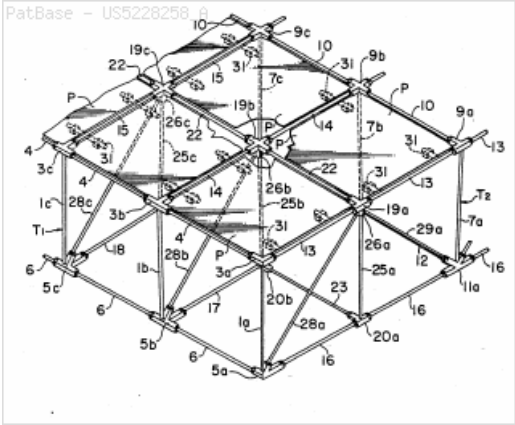
Agent(s): RUSS WEINZIMMER; RUSS WEINZIMMER AND ASSOCIATES PC

Title: COLLAPSIBLE TRUSS **STRUCTURE**

Abstract: A collapsible truss **structure** having a shape of a rectangular parallelepiped when expanded is an open truss framework made up of skeletal members pin **jointed** together by **joint** connectors to form sixteen rectangular bays, four of which have diagonal braces, and **supports panels** for **covering** one face of the **structure**. The **joint** connectors permit the **structure** to be folded by power means in two directions into a compact slab for storage and/or transportation with the **panels** assembled therewith, while elastically biasing means automatically unfold the **structure** into its expanded state. Planar, single-curvature, and double-curvature **panels** can be thus **supported**. This **structure** can be optionally assembled with other **structures** to form larger structural assemblies.

Classifications:

International (IPC 8-9): B64G99/00 E04B1/344
E04H1/12 (Advanced/Invention);
B64G99/00 E04B1/344 E04H1/12 (Core/Invention)
International (IPC 1-7): E04H12/18
CPC: E04B1/3441 B64G9/00 E04H1/1205 Y02E10/47 F24S25/13
F24S2025/012
European: B64G9/00 E04B1/344B E04H1/12B
US: 343/915 52/646



Family:

Publication number	Publication date	Application number	Application date
US5228258 A	19930720	US19910789790	19911112

Priority:

US19890441262 19891127 US19910789790 19911112

Probable Assignee: JUNJIRO ONODA
Assignee(s): (std): FUJI HEAVY IND LTD ; JUNJIRO ONODA
Assignee(s): FUJI JUKOGYO KABUSHIKI KAISHA ; FUJI JUKOGYO KK
Inventor(s): (std): ONODA JUNJIRO ; TAKAMATSU KIYOSHI

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; KIRBY EADES GALE BAKER

Designated states: CH DE FR GB LI SE

Title: LIFT APPARATUS FOR BASE-MOUNTED PLANT

Abstract: An lift apparatus may include a holder and a lift mechanism. A holder may function to **couple** with a plant held at least partially in an opening of the base element. The base element and the plant may form a portion of a composite tree. The base element may be configured to **couple** to a surface. The lift mechanism may be **coupled** to the holder. The lift mechanism may function to move at least a portion of the holder to lift the plant out of the opening. Portions of the living plants may form branches of the composite tree.

Classifications:**International (IPC 8-9):** A01G13/06 A01G9/02 A47G33/12

A63G21/18 A63H23/16 B25J5/00 (Advanced/Invention);

A63G21/18 A63H23/10 B25J5/00 (Advanced/Non-invention);

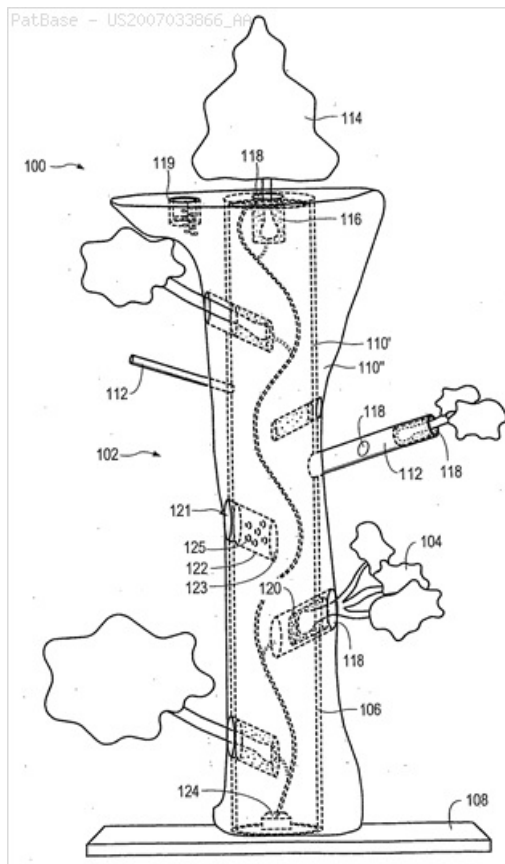
A01G9/02 A47G33/00 A63G21/00 B25J5/00 (Core/Invention)

CPC: A01G9/022 A01G23/043 A01G27/005 A41G1/007 A63G3/00 A63G21/18**European:** A01G23/04A A01G27/00E A01G9/02C A41G1/00D

A63G21/18 A63G3/00 K63G21/18 K63G3/00

US: 47/40.5 47/40.500P 47/65.7 47/65.700P 47/66.6 47/66.600S

47/83 472/117 472/128 472/136

**Family:**

Publication number	Publication date	Application number	Application date
AU2006236172 AA	20061026	AU20060236172	20060420
CA2611139 AA	20071129	CA20062611139	20060420
EP1876880 A2	20080116	EP20060751275	20060420
KR20080017316 A	20080226	KR20077027033	20071120
US2007033866 AA	20070215	US20060407845	20060420
US2007033867 AA	20070215	US20060407862	20060420
US2007033868 AA	20070215	US20060407875	20060420
US2007051036 AA	20070308	US20060407861	20060420
US2007051037 AA	20070308	US20060407874	20060420
US2007051038 AA	20070308	US20060407885	20060420
US2007051039 AA	20070308	US20060407886	20060420
US7785207 BB	20100831	US20060407875	20060420
US7921601 BB	20110412	US20060407886	20060420
WO06113936 A2	20061026	WO2006US15503	20060420
WO06113936 A3	20070907	WO2006US15503	20060420

Priority:

US20050673326P 20050420	US20050713849P 20050902	US20060407874 20060420
US20060407845 20060420	US20060407862 20060420	US20060407861 20060420
US20060407886 20060420	US20060407875 20060420	US20060407885 20060420
WO2006US15503 20060420		

Probable Assignee: WATER RIDE CONCEPTS INC**Assignee(s):** (std): HENRY JEFFERY W ; HENRY JEFFERY WAYNE ; HENRY SCHOOLEY AND ASSOCIATES ; HENRY SCHOOLEY AND ASSOCIATES L ; SCHOOLEY JOHN T ; SCHOOLEY JOHN TIMOTHY ; WATER RIDE CONCEPTS INC**Assignee(s):** HENRY SCHOOLEY AND ASSOCIATES L L C ; HENRY SCHOOLEY AND ASSOCIATES LLC**Inventor(s):** (std): HENRY JEFFERY W ; HENRY JEFFERY WAYNE ; SCHOOLEY JOHN T ; SCHOOLEY JOHN TIMOTHY**Inventor(s):** HENRY JEFFERY ; JEFFERY WAYNE HENRY ; JOHN TIMOTHY SCHOOLEY ; SCHOOLEY JOHN**Agent(s):** GRIFFITH HACK; GOUDREAU GAGE DUBUC; DE KERNIER GABRIEL; MEYERTONS HOOD KIVLIN KOWERT AND GOETZEL PC; ERIC B**Designated states:** AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: **STRUCTURE** OF A SEMICONDUCTOR ARRAY

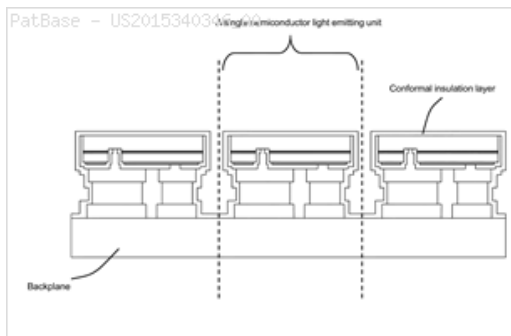
Abstract: A **structure** of a semiconductor array comprises multiple semiconductor units, an isolation layer and a decomposed or buffer unit. Multiple semiconductor units combined the semiconductor array. The isolation layer coated each semiconductor unit. The decomposed or buffer unit coated the isolation layer and filled between each semiconductor unit to enhance **structure** of the semiconductor units. Wherein, the isolation layer protected by edge of the semiconductor units and the decomposed or buffer unit.

Classifications:

International (IPC 8-9): F21V23/00 H01L25/075 H01L27/105
H01L27/112 H01L27/15 H01L31/02 H01L31/0216 H01L31/0224
H01L31/0232 H01L31/0304 H01L31/0352 H01L31/12 H01L33/32
H01L33/36 H01L33/44 H01L33/50 H01L33/54
H01L33/62 (Advanced/Invention);
H01L25/16 H01L33/00 H01L33/38 H01L33/50 H01L33/58
H01L33/62 (Advanced/Non-invention)

CPC: H01L33/50 H01L24/97 H01L2224/16225 H01L2924/181
H01L27/153 H01L33/46 H01L33/60 H01L33/62 H01L25/0753
H01L33/54 H01L2924/13091 H01L33/32 H01L31/02327 H01L31/1035
H01L2224/97 H01L33/44 H01L31/103 G02B6/43 H01L27/1446
H01L31/035281 Y02E10/50 H01L27/156 H01L33/0079 H01L33/504
H01L33/508 H01L2224/8192 H01L25/167 H01L33/38 H01L33/58
H01L2933/0041

US: 257/21 257/89 362/227 362/235



Family:

Publication number	Publication date	Application number	Application date
■ CN108140688 A	20180608	CN201680056298	20160927
■ US2015340346 AA	20151126	US20150720316	20150522
■ US2015362165 AA	20151217	US20150738490	20150612
■ US2016020353 AA	20160121	US20150867675	20150928
■ US2018047876 AA	20180215	US20170793087	20171025
■ US9831387 BB	20171128	US20150738490	20150612
■ WO16188505 A1	20161201	WO2016C090840	20160721
■ WO16198686 A1	20161215	WO2016EP63451	20160613
■ WO17054696 A1	20170406	WO2016CN100218	20160927

Priority:

US20140002851P 20140524	US20140009250P 20140608	US20140009251P 20140608
US20140012281P 20140614	US20140013503P 20140617	US20140077329P 20141110
US20150720316 20150522	US20150738490 20150612	US20150198371P 20150729
US20150867675 20150928	WO2016CN100218 20160927	US20170793087 20171025

Probable Assignee: HIPHOTON CO LTD

Assignee(s): (std): ALEDIA ; CHU CHEN FU ; HIPHOTON CO LTD

Assignee(s): HIPHOTON CO ; CHEN FU CHU

Inventor(s): (std): CHU CHEN FU ; CHU CHEN HSIEN

Agent(s): MUNCY GEISSLER OLDS AND LOWE PC; BEIJING SANYOU INTELLECTUAL PROPERTY AGENCY LTD;
DUPONT JEAN BAPTISTE ET AL; BEIJING BEIXIN ZHICHENG INTELLECTUAL PROPERTY AGENT CO LTD

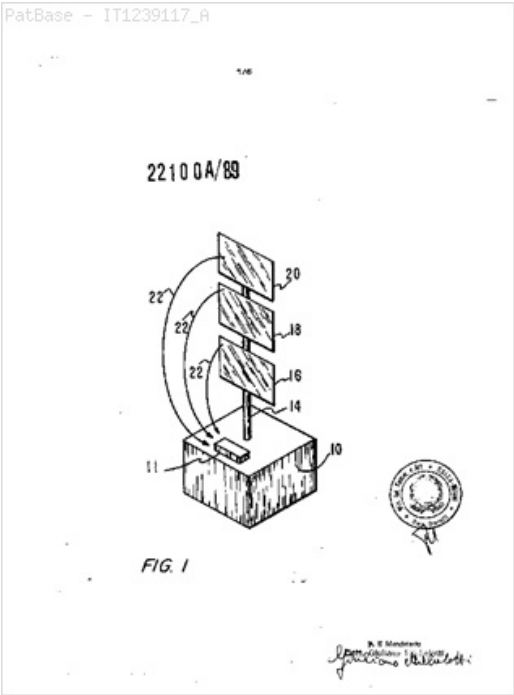
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ID IE IL IN IR IS IT JP KE KG KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML
MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE
SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ANTI-ELECTROSTATIC PANEL

Abstract: Undesirable electrostatic fields associated with dielectric surfaces of a solar panel cell array (60<0>, 60<1>...) are reduced by a transparent conductive coating (70), which may be indium tin oxide, formed on the surface of the coverglass (62) of each individual solar cell of the array. In a preferred embodiment, conductive elastomer (74) is used to interconnect the transparent conductive coatings. The coatings may be connected to the spacecraft structure to prevent the fields from building up. This permits instruments sensitive to the fields to be used.

Classifications:

International (IPC 8-9): B64G1/44 H01L31/0224 H01L31/042 H01L31/048 H01L31/05 (Advanced/Invention); B64G1/42 H01L31/0224 H01L31/042 H01L31/048 H01L31/05 (Core/Invention)
International (IPC 1-7): B64G1/44 H01L23/06 H01L31/042 H01L31/05 H01L31/06 H01L31/18
CPC: H01L31/048 H01L31/022475 H01L31/05 H01L31/022466 Y02E10/50
European: H01L31/0224C H01L31/048 H01L31/05 Y02E10/50



Family:

Publication number	Publication date	Application number	Application date
DE3935826 A1	19900613	DE19893935826	19891027
FR2638568 A1	19900504	FR19890014027	19891026
GB2224391 A1	19900502	GB19890024383	19891030
GB8924383 A0	19891220	GB19890024383	19891030
IT1239117 A	19930928	IT19890022100	19891023
IT8922100 A0	19891023	IT19890022100	19891023
JP2177576 A2	19900710	JP19890283180	19891101

Priority:

US19880265844 19881101 US19890313105 19890217

Probable Assignee: GEN ELECTRIC

Assignee(s): (std): GEN ELECTRIC

Assignee(s): GENERAL ELECTRIC CO ; GENERAL ELECTRIC CO SCHENECTADY N Y US ; GENERAL ELECTRIC COMPANY ; GENERAL ELECTRIC CY

Inventor(s): (std): ANSONII FUERUNANDO MUTSUKIATSU ; CHIYAARUZU RICHIYAADO SUNAIDAA ; KURAUDO JIYOOJI KAZANABE ; MUCCIACCIARO ANTHONY FERNANDO ; PAPULA PETER STEPHEN ; CAZANAVE CLAUDE GEORGE ; PIITAA SUTEFUAN PAPURA ; SNYDER CHARLES RICHARD

Inventor(s): CHARLES RICHARD SNYDER ; PETER STEPHEN PAPULA ; CLAUDE GEORGE CAZANAVE ; DER ERFINDER WIRD NACHTRAEGLICH BENANNT ; ANSONII FUERUNANDO MUTSUKIATSUKIARO ; ANTHONY FERNANDO MUCCIACCIARO

Title: SYSTEMS AND METHODS FOR SCRIBING **PHOTOVOLTAIC STRUCTURES**

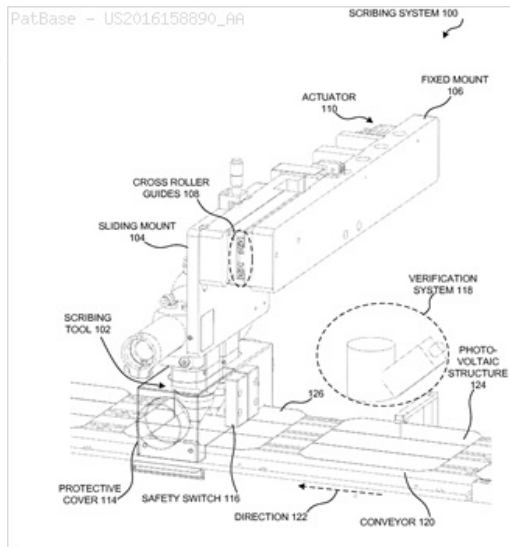
Abstract: A system for scribing a **photovoltaic structure** is provided. During operation, a conveyor can move a **photovoltaic structure** along a path, and a scribing apparatus is directed toward that path to scribe a groove of a predetermined depth. In one embodiment, the groove does not penetrate an interface between a base layer and an emitter layer of the **photovoltaic structure**.

Classifications:

International (IPC 8-9): B05B13/04 B05C11/10 B23K26/042 B23K26/08 B23K26/36 B23K26/40 B23P19/00 B23P19/04 B25B11/00 B28D5/00 B29C47/00 B29C47/02 B32B38/10 C23C26/00 H01L21/304 H01L21/66 H01L21/67 H01L21/78 H01L31/02 H01L31/0224 H01L31/0352 H01L31/0443 H01L31/049 H01L31/05 H01L31/18 H02S20/25 H02S50/10 H05K3/02 H05K3/10 H05K3/12 (Advanced/Invention); B05B12/12 B32B43/00 H01L21/304 H01L21/683 H01L21/687 (Advanced/Non-invention)

CPC: H01L22/26 H01L31/18 H01L31/0516 H01L31/0443 H01L31/1864 H05K3/1283 H02S50/10 H02S20/25 B23P19/04 H01L21/67103 H01L31/0201 H01L31/02013 H01L31/035281 H01L31/022433 H01L31/0504 B23K26/364 B32B38/10 B32B43/006 H01L21/3043 H01L21/683 H01L21/6838 H01L21/68735 H01L21/68778 Y10T156/1179 Y10T156/1184 Y10T156/1967 Y10T156/1983 B28D5/0052 B28D5/0094 Y02B10/12 B05B12/124 B05B13/0431 B05C11/1023 B05C11/1034 H01L31/049 H01L31/1876 Y02P70/521 Y10T29/53174 B29C47/026 H01L31/188 Y02E10/50

US: 118/323 118/324 118/600 118/712 136/251 136/256 156/272.8 156/285 156/379.6 156/60 156/701 156/708 156/750 219/209 219/388 29/25.01 29/650 29/739 29/846 438/5 438/57 438/59 438/80

**Family:**

Publication number	Publication date	Application number	Application date
CN107004729 A	20170801	CN201580064272	20151204
CN205621745 U	20161005	CN201590000121U	20151204
CN205984934 U	20170222	CN201521145496U	20151207
EP3227926 A1	20171011	EP20150823849	20151204
MX2017003614 A1	20170713	MX20170003614	20151204
US2016158890 AA	20160609	US20150804306	20150720
US2016163888 AA	20160609	US20150857653	20150917
US2016163903 AA	20160609	US20150924625	20151027
US2016163907 AA	20160609	US20150826129	20150813
US2016163908 AA	20160609	US20150877870	20151007
US2016163909 AA	20160609	US20150866776	20150925
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WO16090301 A1	20160609	WO2015US64083	20151204
WO16090304 A1	20160609	WO2015US64090	20151204
WO16090324 A1	20160609	WO2015US64116	20151204
WO16090332 A1	20160609	WO2015US64127	20151204
WO16090339 A1	20160609	WO2015US64136	20151204
WO16090340 A1	20160609	WO2015US64137	20151204
WO16090341 A1	20160609	WO2015US64138	20151204

Priority:

US20140088509P	20141205	US20150143694P	20150406	US20150804306	20150720
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US20150877870	20151007	US20150924625	20151027	US20150930616	20151102
US20150960328	20151204	WO2015US64127	20151204	WO2015US64072	20151204
US20170451326	20170306	US20170627312	20170619		

Probable Assignee: SOLARCITY CORP

Assignee(s): (std): SOLARCITY CORP ; TESLA INC ; ZEP SOLAR INC

Assignee(s): GW RESEARCH LTD

Inventor(s): (std): BOBBY YANG ; ERBEN CHRISTOPH ; GONZALEZ PABLO ; HENG JIUNN BENJAMIN ; NGUYEN PETER P ; NGUYEN PETER PHUC ; PABLO GONZALEZ ; PETER P NGUYEN ; REDDY ANAND J ; YANG BOBBY

Agent(s): LANG JOHANNES; KILPATRICK TOWNSEND AND STOCKTON LLP; PARK VAUGHAN FLEMING AND

DOWLER LLP; SHUN; WILLINK CHRISTOPHER L ET AL; YAO SHUN; GUPTA MANEESH ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID
IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN
MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG
SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEMS FOR THE ON-DEMAND PRODUCTION OF POWER AS A SOLE SOURCE OR AIDING OTHER POWER SOURCES, IN THE TRANSPORTATION AND HOUSING FIELD.

Abstract: The system of the invention is a very efficient means for the on-demand production of hydrogen for aid, power, and electricity, operated by a control system with a modular, smart, and high-power efficiency arrangement using nanotechnology. A vast number of selections are provided for the user to obtain power production when needed or furthermore with variable delivery. Respecting cleanliness, environmental, and air pollution reduction constraints, the system is devised for use in the areas of housing, transportation, or more generally, any industry producing electricity or heat particularly by hydrocarbon means, or furthermore any environment requiring power for stationary or mobile operation.

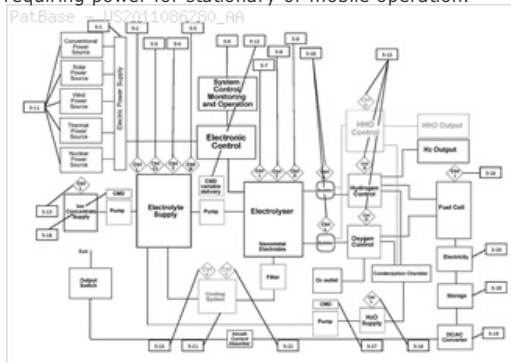
Classifications:

International (IPC 8-9): A47G11/00 B01D29/00 B01D69/00 B01J19/00 B60L11/18 B82B3/00 C01B3/06 C01B3/10 C01B3/22 C23C14/48 C23C14/56 C23C16/04 C23C16/40 C23C16/44 C23C16/442 C25B1/02 C25B1/04 C25B15/00 C25B15/02 C25B15/08 C25B9/00 C25B9/16 H01L31/032 H01L31/042 H01L31/058 H01M16/00 H01M2/14 H01M4/00 H01M4/04 H01M8/00 H01M8/02 H01M8/04 H01M8/06 (Advanced/Invention); B82Y30/00 B82Y99/00 (Advanced/Non-invention); A47G11/00 B01D29/00 B01D69/00 B60L11/18 B82B3/00 C01B3/00 C23C14/48 C23C16/04 C23C16/40 C23C16/44 C23C16/442 C25B1/00 C25B15/00 C25B9/16 H01L31/0264 H01L31/042 H01L31/058 H01M2/14 H01M4/00 H01M4/04 H01M8/00 H01M8/02 H01M8/04 H01M8/06 (Core/Invention)

CPC: C25B9/162 H01M16/006 C25B1/02 A47G11/006 C25B13/00 Y02B90/18 H01M8/065 C01B3/065 H01M8/0662 H01M16/00 H01M2250/30 Y02B10/20 Y02B10/70 Y02E10/60 Y02E60/362 H01M4/385 H01M4/926 B82Y30/00 C01B3/501 C01B2203/041 C01B2203/066 C23C16/45544 C23C16/45546 H01L31/0322 H01L31/0352 H01L31/035281 H01L31/03685 H01L31/03762 H01L31/0392 H01L31/0749 Y02E10/541 C23C16/045 C23C16/405 C23C16/442 H01M4/0428 H01M4/8867 H02S40/44 H02S99/00 Y02P20/134 C25B1/04 B60L11/1881 B60L11/1892 B60L11/1894 B60L2240/525 B60L2240/622 B60L2260/54 C25B15/02 C25B15/08 H01M4/90 H01M8/0656 Y02E60/366 Y02E70/10 Y02T10/7291 Y02T90/16 Y02T90/162 Y02T90/34 C01B6/00 C25B9/16 H01L31/03925 H01L31/03928

European: A47G11/00T4 B60L11/18R B60L11/18R8D B60L11/18R8F B82Y30/00 C01B3/06C C01B3/50B C01B6/00 C23C16/04D C23C16/40H C23C16/442 C23C16/455F2D C23C16/455F2D2 C25B1/02 C25B1/04 C25B13/00 C25B15/02 C25B15/08 C25B9/16 C25B9/16B H01L31/032C H01L31/0392 H01L31/058 H01M16/00F2 H01M4/04B18D H01M4/38B2 H01M4/88G16 H01M4/92S2 H01M8/06B4 H01M8/06C H02N6/00 L60L240/525 L60L240/62B L60L260/54 M01B203/04B2 M01B203/06H T01L31/0352 T01L31/0352C2 T01L31/0368B2 T01L31/0376B T01L31/0749 T01M16/00 T01M250/30 T01M4/90 T01M8/06B6 T01M8/06C Y02B10/10 Y02B10/20 Y02B10/70 Y02E10/50 Y02E10/54B Y02E10/60 Y02E60/12 Y02E60/36 Y02E60/36B Y02E60/36F Y02E60/50 Y02E70/10 Y02T10/72D8 Y02T90/16 Y02T90/16B2 Y02T90/34

US: 204/230.2 204/230.200S 204/242 204/242S 204/267 204/275.1 204/275.100S 422/239 422/239S 429/410 429/410S 429/421 429/421S 429/422 429/422P 429/427 429/427S 429/9 429/9P 977/700 977/700S 977/742 977/742S



Family:

Publication number	Publication date	Application number	Application date
FR2931694 A1	20091204	FR20090001976	20090423
FR2931811 A1	20091204	FR20080006820	20081205
FR2931811 B1	20131101	FR20080006820	20081205
FR2931812 A1	20091204	FR20090000267	20090122
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FR2931843 A1	20091204	FR20090001503	20090327
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FR2931844 B1	20131101	FR20080003019	20080602
FR2932002 A1	20091204	FR20090000921	20090302
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FR2941138 A1	20100723	FR20090000276	20090122
FR2956869 A1	20110902	FR20100000828	20100301
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US2011086280 AA	20110414	US20090994858	20090528
US2011168549 AA	20110714	US20090056660	20090812
US2011236729 AA	20110929	US20090132633	20091204
WO09156610 A2	20091230	WO2009FR00622	20090528
WO09156610 A3	20100325	WO2009FR00622	20090528
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WO10063907 A2	20100610	WO2009FR01379	20091204
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WO10063908 A2	20100610	WO2009FR01380	20091204
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Priority:

FR20080003019	20080602	FR20080004598	20080814	FR20080006820	20081205
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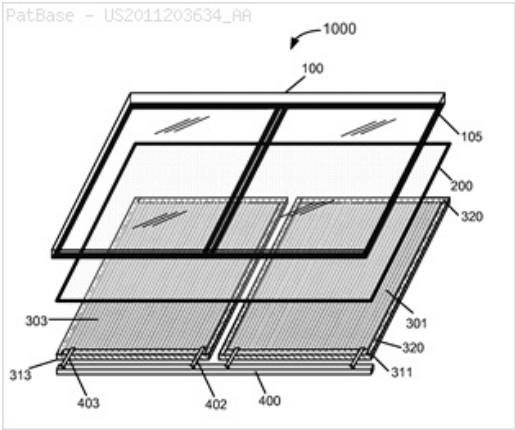
Probable Assignee: ALEX ROUSTAEI

Assignee(s): (std): AZRIA MARIE CHRISTINE ; DJEMAI ABDELMADJID ; ROUSTAEI ALEX HR ; ROUSTAEI ALEX
Assignee(s): MARIE CHRISTINE AZRIA ; ALEX HR ROUSTAEI ; ALEX ROUSTAEI
Inventor(s): (std): ROUSTAEI ALEX HR ; DJEMAI ABDELMADJID ; AZRIA MARIE CHRISTINE ; ROUSTAEI ALEX
Inventor(s): ALEX HR ROUSTAEI ; ABDELMADJID DJEMAI ; ALEX ROUSTAEI ; MARIE CHRISTINE AZRIA
Agent(s): ALEX ROUSTAEI; ALEX HR ROUSTAEI; JURISPATENT PARIS; ROUSTAEI ALEX HR
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU
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MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV
SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD AND **STRUCTURE** FOR TILING INDUSTRIAL THIN-FILM **SOLAR** DEVICES

Abstract: A method for integrating **photovoltaic** module includes providing a **cover** plate having a first surface and a second surface opposed to the first surface and supplying **photovoltaic** devices respectively formed on substrates. The **photovoltaic** devices include **photovoltaic** cells electrically **coupled** to each other, and each cell is characterized by a thin-film **photovoltaic** layer sandwiched between a first electrode material and a second electrode material. The first electrode material overlies the substrate and the second electrode material overlies the thin-film **photovoltaic** layer. The method further includes disposing the **solar** devices side by side to laminate with the **cover** plate by means of a first organic material filled between the second electrode material and the second surface. Each of the **solar** devices has a peripheral edge region being sealed by a second organic material. The method further includes electrically **coupling** the **solar** devices to each other.

Classifications:
International (IPC 8-9): H01L31/02 H01L31/042 H01L31/048 H01L31/05 H01L31/0749 H01L31/18 (Advanced/Invention)
CPC: Y02E10/541 Y02E31/048 H01L31/0201 H01L31/0504 H01L31/0749 Y02E10/50 H01L31/048 H01L31/02013
European: H01L31/02E2B2 H01L31/02E2B3 H01L31/048 H01L31/05B H01L31/0749 Y02E10/50
US: 136/244 136/251 257/E31.117 257/E31.117S 438/67 438/67S



Family:

Publication number	Publication date	Application number	Application date
US2011203634 AA	20110825	US20110006743	20110114
US2015027517 AA	20150129	US20140514185	20141014
US8859880 BB	20141014	US20110006743	20110114

Priority:

US20100297661P 20100122 US20110006743 20110114 US20140514185 20141014

Probable Assignee: STION CORP
Assignee(s): (std): STION CORP ; WIETING ROBERT D
Assignee(s): CM MFG INC ; HETF SOLAR INC
Inventor(s): (std): WIETING ROBERT D
Agent(s): KILPATRICK TOWNSEND AND STOCKTON LLP

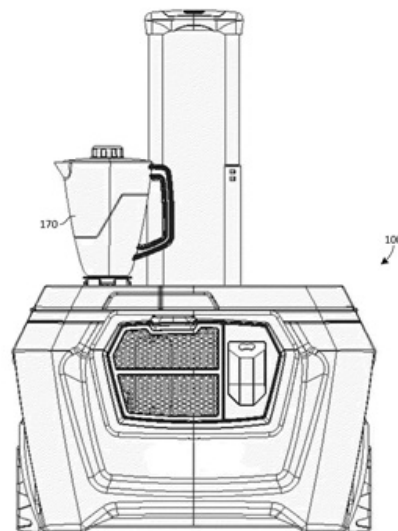
Title: COOLER HAVING INTEGRATED BLENDER AND ACCESSORIES

Abstract: A portable cooler includes an insulated body that defines a main interior storage space, and a lid **structured** to at least partially **cover** the main interior storage space. The lid includes an integrated blender or an integrated blender drive. Components of the blender may include a source of electrical power, an electric motor, and a blender spindle mounted through a surface of the lid and **coupled** to the electric motor. The integrated blender may also include a blender jar **structured** to hold food items for blending and one or more blending blades. The lid may further include a blender recess shaped in a negative mold of a collar of the blender jar to prevent the blender jar from rotating during operation.

Classifications:

International (IPC 8-9): A23G9/04 A45C11/20 A45C5/14
A47J43/046 A47J43/07 A47J43/08 B01F13/00 B01F15/00 B01F7/00
B01F7/16 B65D1/24 B65D51/24 B65D81/38 F25D23/00 F25D23/02
F25D23/12 F25D3/08 F25D31/00 H02J7/00 (Advanced/Invention)
CPC: F25D23/00 A47J43/0722 A47J43/085 B01F7/0025
B01F15/00538 B01F7/162 B01F15/00519 B01F13/0018 B65D51/24
B65D81/3813 H02J7/0063 H02J7/0047 H02J2007/0067 F25D3/08
B65D81/3816 A45C5/14 A45C11/20 A47J43/046 F25D23/12
F25D2303/081 F25D2400/38 F25D31/002 B01F13/002 F25D23/026
F25D2400/12
US: 220/212 220/592.01 220/592.2 220/592.25 307/154 320/127
320/135 366/144 366/205 62/320 62/457.2

PatBase - US2015114024_HH



Family:

Publication number	Publication date	Application number	Application date
■ CN106068433 A	20161102	CN201480071663	20141031
■ US2015114024 AA	20150430	US20140530541	20141031
■ US2015114028 AA	20150430	US20140530577	20141031
■ US2015114977 AA	20150430	US20140530543	20141031
■ US2015114979 AA	20150430	US20140530591	20141031
■ US2015114980 AA	20150430	US20140530551	20141031
■ US2015115894 AA	20150430	US20140530602	20141031
■ US2015176884 AA	20150625	US20140530563	20141031
■ US2018066882 AA	20180308	US20170811398	20171113
■ US9791200 BB	20171017	US20140530591	20141031
■ US9976789 BB	20180522	US20140530541	20141031
■ WO15066559 A2	20150507	WO2014US63589	20141031
■ WO15066559 A3	20150903	WO2014US63589	20141031

Priority:

US20130898344P	20131031	US20140530541	20141031	US20140530577	20141031
US20140530543	20141031	US20140530551	20141031	US20140530563	20141031
US20140530591	20141031	US20140530602	20141031	WO2014US63589	20141031
US20170811398	20171113				

Probable Assignee: GREPPER RYAN

Assignee(s): (std): GREPPER RYAN

Inventor(s): (std): GREPPER RYAN

Agent(s): MARGER JOHNSON; ROSS KEVIN S

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: HEAT-DISSIPATING **STRUCTURE** FOR LIGHTING APPARATUS AND LIGHTING APPARATUS

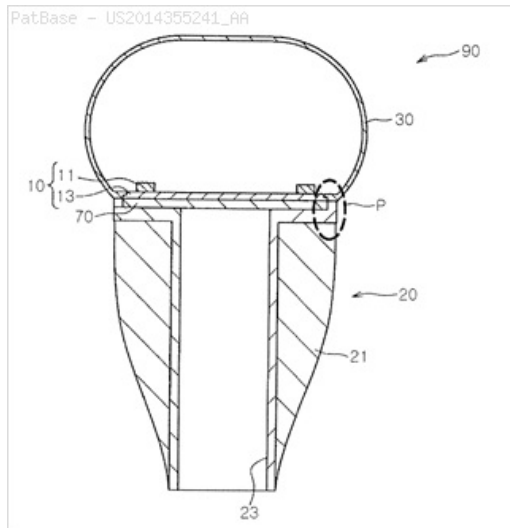
Abstract: There is provided a lighting device including: a light emitting module having at least one light emitting device outputting light and a light emitting device board on which the at least one light emitting device is disposed; a housing installed on one side of a ring in a central axis direction relatively to the light emitting device board; and a resin globe installed to **cover** the light emitting module, wherein the globe has a plurality of protrusions formed by retaining at least a portion of a gate unit used in molding the globe, and the light emitting device board may have notch portions combined with the protrusions.

Classifications:

International (IPC 8-9): F21K9/23 F21K9/64 F21K9/66 F21K99/00 F21S2/00 F21V17/00 F21V17/06 F21V17/10 F21V19/00 F21V23/00 F21V29/00 F21V29/70 F21V29/77 F21V3/00 F21V3/02 F21V3/04 F21V7/00 F21V7/04 F21V7/10 F21Y115/10 H01L33/48 H01L33/50 H01L33/60 H01L33/64 H05K7/20 (Advanced/Invention); F21Y101/02 F21Y103/02 F21Y111/00 F21Y115/10 (Advanced/Non-invention)

CPC: F21V23/005 F21V29/004 F21V29/83 F21V7/0016 F21V29/15 H01L2224/14 H01L2224/16225 F21V29/773 F21V3/02 F21K9/232 F21K9/64 F21Y2103/33 F21Y2107/30 F21Y2115/10 F21K9/238 F21V23/006 F21Y2101/00 F21V3/12 F21K9/66 F21V7/10 F21V19/001 F21V29/70

US: 1/1 362/294 362/296.05 362/307 362/363 362/84



Family:

Publication number	Publication date	Application number	Application date
■ CN104126096 A	20141029	CN201280069936	20121214
■ CN104126096 B	20170620	CN201280069936	20121214
■ CN107152617 A	20170912	CN201710390531	20121214
■ DE602012037434 D1	20171026	DE201260037434T	20121214
■ EP2792944 A1	20141022	EP20120858384	20121214
■ EP2792944 A4	20160427	EP20120858384	20121214
■ EP2792944 B1	20170913	EP20120858384	20121214
■ JP2013127874 A2	20130627	JP20110276475	20111216
■ JP2013127875 A2	20130627	JP20110276476	20111216
■ JP2013127876 A2	20130627	JP20110276477	20111216
■ JP2013127877 A2	20130627	JP20110276478	20111216
■ JP2013127878 A2	20130627	JP20110276479	20111216
■ JP2013127879 A2	20130627	JP20110276480	20111216
■ JP2013127880 A2	20130627	JP20110276481	20111216
■ KR101405011 B1	20140610	KR20120146414	20121214
■ KR20130069505 A	20130626	KR20120146414	20121214
■ KR20130069673 A	20130626	KR20130022872	20130304
■ US2014355241 AA	20141204	US20120365974	20121214
■ US9239159 BB	20160119	US20120365974	20121214
■ WO13089521 A1	20130620	WO2012KR10966	20121214

Priority:

JP20110276478	20111216	JP20110276477	20111216	JP20110276476	20111216
JP20110276475	20111216	JP20110276481	20111216	JP20110276480	20111216
JP20110276479	20111216	CN201280069936	20121214	EP20120858384	20121214
KR20120146414	20121214	WO2012KR10966	20121214		

Probable Assignee: SAMSUNG ELECTRONICS CO LTD

Assignee(s): (std): SAMSUNG ELECTRONICS CO LTD

Assignee(s): SAMSUNG ELECTRONICS CO LTD SUWON SI ; SAMSUNG ELECTRONICS CO

Inventor(s): (std): MORISHITA ICHIRO ; TAKENAKA HIROMITSU

Agent(s): KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO PARTG MBB; KUHNEN AND WACKER; MCDERMOTT WILL AND EMERY LLP; C AND S PATENT AND LAW OFFICE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

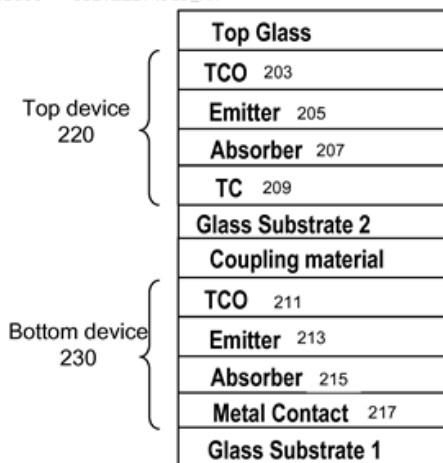
Title: **STRUCTURE** AND METHOD FOR HIGH EFFICIENCY CIS/CIGS-BASED TANDEM **PHOTOVOLTAIC** MODULE

Abstract: A tandem thin-film **photovoltaic** module includes a bottom device having a first PV junction including a p+ type absorber having an energy band-gap ranging from 1.0 to 1.2 eV, sandwiched between a first transparent electrode and a lower reflective electrode. The tandem module also includes a top device mechanically **coupled** to the bottom device. The top device is a bi-facial device having a second PV junction sandwiched by transparent conductive oxide electrodes. The second PV junction includes a second p+ type absorber engineered with an energy band-gap within 1.7 to 2.0 eV. A tandem thin-film **photovoltaic** module is configured have a superstrate for the top device for receiving sunlight radiation. The tandem thin-film **photovoltaic** module is configured to **convert** high-energy electromagnetic radiation to electric current at the top device and convert low-energy electromagnetic radiation to electric current at the bottom device with a combined conversion efficiency of 18 percent or greater.

Classifications:

International (IPC 8-9): H01L31/0224 H01L31/0336 H01L31/042
H01L31/06 H01L31/0725 H01L31/073 H01L31/18 (Advanced/Invention)
CPC: H01L31/0749 Y02E10/541 H01L31/043
US: 136/244 136/244S 136/249 257/E31.124 257/E31.124S
257/E31.127 257/E31.127S 438/72 438/72S

PatBase - US2012204939_AA



Family:

Publication number	Publication date	Application number	Application date
■ CN202423306 U	20120905	CN201120307144U	20110822
■ DE202011104896 U1	20120315	DE201120104896U	20110823
■ TWM432144 Y	20120621	TW20110215729U	20110823
■ US2012204939 AA	20120816	US20110210345	20110815

Priority:

US20100376229P 20100823 US20110210345 20110815

Probable Assignee: STION CORP

Assignee(s): (std): LEE HOWARD W H ; STION CORP ; WIETING ROBERT D

Assignee(s): CM MFG INC ; HETF SOLAR INC

Inventor(s): (std): LEE HOWARD W H ; LEE W H HOWARD ; ROBERT D WIETING ; WIETING ROBERT D ; VITING ROBERT D

Inventor(s): ROBERT D VITING ; HOWARD W H LEE ; ROBERTDVITING ; ROBERT D ; HOWARDWHEE

Title: RENEWABLE ENERGY SOURCE INCLUDING AN ENERGY CONVERSION **STRUCTURE** AND A BEARING COMPONENT

Abstract: A power generation **structure** for generating power from a renewable energy source including a base, an energy conversion **structure** connected to the base, and an articulating **joint** between the base and the energy conversion **structure**, the articulating **joint** comprising a bearing member having a body including a composite material having a rigid material and a friction-reducing material overlying the rigid material, wherein the rigid material comprises a material selected from the group of consisting of aluminum and stainless steel.

Classifications:

International (IPC 8-9): F16C F16C17/02 F16C33/04 F16C33/08 F16C33/10 F16C33/12 F16C33/16 F16C33/20 F16M11/00 F16M11/10 F16M11/20 F24J F24J2/54 H01L31/042 H02S10/00 H02S20/00

H02S40/00 (Advanced/Invention);

F16C17/02 F24J2/54 (Core/Invention);

F16C33/04 F24J2/54 (Core/Non-invention)

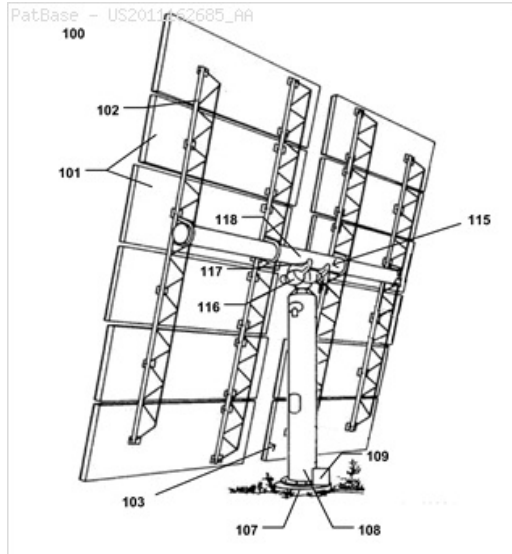
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F16C2240/54 F16C2300/14 F24S30/452 F24S2030/15

European: F16C17/02 F16C17/02B F16C33/08 F16C33/20 F24J2/54 Y02E10/47 Y02E10/50

US: 136/244 248/176.1 248/176.100S 508/100 52/173.3



Family:

Publication number	Publication date	Application number	Application date
AU2010338177 AA	20110707	AU20100338177	20101231
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CN102985765 B	20160302	CN201080056857	20101231
EP2519784 A2	20121107	EP20100801179	20101231
IN01744MN2012 A	20131122	IN2012MN01744	20120713
JP2013515221 T2	20130502	JP20120545357T	20101231
JP2015038376 A2	20150226	JP20140162557	20140808
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KR20120102772 A	20120918	KR20127018285	20101231
MA33846 B1	20121203	MA20120035001	20120625
MX2012007502 A1	20120807	MX20120007502	20101231
RU2012129252 A	20140210	RU20120129252	20101231
RU2534192 C2	20141127	RU20120129252	20101231
TH130116 A	20131211	TH20121003169	20101231
TN2012000306 A1	20131212	TN20120000306	20120615
TW201124647 A	20110716	TW20100147384	20101231
TWI500861 B	20150921	TW20100147384	20101231
US2011162685 AA	20110707	US20100982945	20101231
US8984817 BB	20150324	US20100982945	20101231
WO11080335 A2	20110707	WO2010EP70975	20101231
WO11080335 A3	20120621	WO2010EP70975	20101231
ZA201205279 A	20130327	ZA20120005279	20120716

Priority:

US20090291799P 20091231	AU20100338177 20101231	US20100982945 20101231
JP20120545357 20101231	JP20120545357T 20101231	WO2010EP70975 20101231
AU20130205222 20130415		

Probable Assignee: SAINT GOBAIN PERFORMANCE PLASTICS PAMPUS GMBH

Assignee(s): (std): HELDMANN JOERG ; SAINT GOBAIN PERFORMANCE PLAST ; SAINT GOBAIN PERFORMANCE PLASTICS PAMPUS GMBH ; SEHNT GOBEN PERFORMANS PLASTIKS PAMPUS GMBKH ; WEIDEN JANAKI

Inventor(s): (std): HELDMANN JOERG ; HELDMANN JORG ; JANAKI WEIDEN ; JOERG HELDMANN ; WEIDEN JANAKI

Inventor(s): HELDMANN J RG

Agent(s): EF WELLINGTON AND CO; E F WELLINGTON AND CO; LEIDESCHER THOMAS; ABEL LAW GROUP LLP; CHI SUK; ZIMMERMANN GERD ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SOLAR SUPPORT STRUCTURE

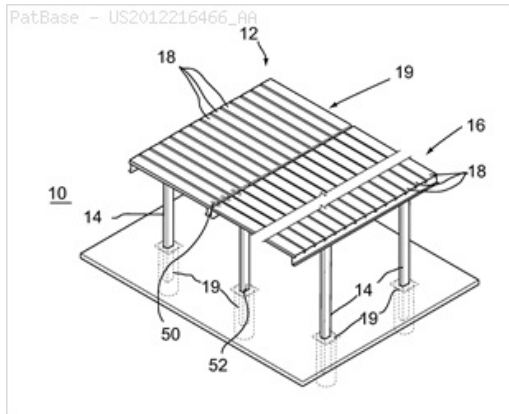
Abstract: A solar support structure includes a plurality of sections, each section including a channel member having a flat major wall and opposed side walls extending therefrom. The major wall of each section is covered with a thin film solar laminate and each section further includes an electrical connection box positioned adjacent one end and electrically coupled to the thin film solar laminate. The sections are formed into a roof panel by channel-shaped beams attached to opposed ends of each section and the beams mount the sections in a parallel abutting relationship. Columns are affixed to the beams and mount the roof panel in a desired orientation relative to an underlying surface. Electrical wiring from the boxes is positioned in one of the beams and extends into one of the columns.

Classifications:

International (IPC 8-9): E04D13/18 (Advanced/Invention)

CPC: E04H6/025 Y02B10/20 Y02E10/47 E04F10/08 H02S20/24 Y02B10/12 F24S20/67 F24S25/12 F24S25/40

US: 136/245 52/173.3 52/173.300P 52/79.1 52/91.3

**Family:**

Publication number	Publication date	Application number	Application date
US2012216466 AA	20120830	US20110036858	20110228
US8511007 BB	20130820	US20110036858	20110228

Priority:

US20110036858 20110228

Probable Assignee: POWERS III JOHN

Assignee(s): (std): POWERS III JOHN

Inventor(s): (std): POWERS III JOHN

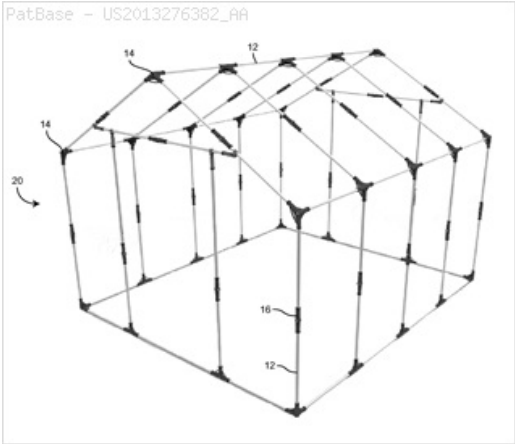
Agent(s): MICHAEL W; ROBERT A; PARSONS AND GOLTRY

Title: MODULAR FRAME AND **STRUCTURE** SYSTEM

Abstract: A modular frame and **structure** system and method includes a framework and a **cover coupled** to the framework and configured to provide a desired **structure**. The framework includes a plurality of elongated frame members, and a plurality of **coupling** members for **coupling** the elongated frame members. One or more of the **coupling** members includes a releasable connecting device having a connecting mode for connecting the **coupling** members to the frame members and form the framework, the releasable connecting device having a release mode for disconnecting the elongated frame members from the **coupling** members. The **cover** includes one or more interlocking wall **panels** configured to engage and be **supported** by the elongated frame members, and one or more interlocking roof **panels** configured to engage and be **supported** by the elongated frame members.

Classifications:

International (IPC 8-9): E04B1/343 E04H1/00 E04H15/18 E04H15/32 E04H15/34 E04H15/44 E04H15/54 E04H15/56 E04H15/64 (Advanced/Invention); E04H15/00 E04H15/14 (Advanced/Non-invention)
CPC: E04H15/008 E04H15/14 E04H15/18 E04H15/32 E04H15/34 E04H1/005 E04H15/54 E04H15/64 E04B1/34315 E04B1/34384 E04H15/44 E04H15/56
US: 1/1 52/204.5 52/474 52/63 52/646 52/79.5



Family:

Publication number	Publication date	Application number	Application date
US2013276382 AA	20131024	US20130782654	20130301
US2016215512 AA	20160728	US20160091455	20160405
US9303426 BB	20160405	US20130782654	20130301
US9771729 BB	20170926	US20160091455	20160405

Priority:

US20120606172P 20120302 US20130782654 20130301 US20160091455 20160405

Probable Assignee: BARE BONES SYSTEMS LLC

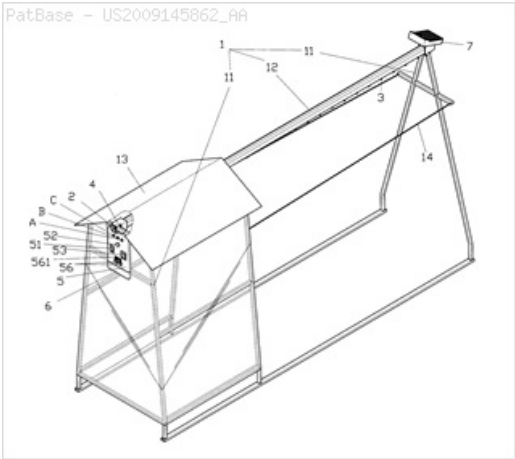
Assignee(s): (std): AYALA GERARDO D ; BARE BONES SYSTEMS LLC ; BAREBONES SYSTEMS LLC ; HOWELL HENRY J ; WORKMAN TYLER SWAN ; WORKMAN JOHN E ; KRANTZ NORM ; WORKMAN ROBERT E
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Agent(s): MORRISS OBRYANT COMPAGNI PC; MORRISS OBRYANT COMPAGNI CANNON PLLC

Title: COLLAPSIBLE CLOTHES HANGER **STRUCTURE**

Abstract: A collapsible clothes hanger **structure** includes a frame, a transmission unit, a hanging unit, a motor and a control unit. The frame comprises a rail and a tent to **cover** a portion of the rail. The transmission unit and the hanging unit are disposed in the rail. The motor is linked to the transmission unit to control the hanging unit to slide along the rail. The control unit is **coupled** with a light sensor, a water drop sensor and a timer to collect signals and to control the motor accordingly.

Classifications:

International (IPC 8-9): D06F57/00 (Advanced/Invention);
D06F57/00 (Core/Invention)
CPC: A47G25/486 D06F53/005 D06F53/04 D06F57/06
European: A47G25/48E D06F53/00B D06F53/04 D06F57/06
US: 211/1.51 211/1.57 211/1.570P



Family:

Publication number	Publication date	Application number	Application date
US2009145862 AA	20090611	US20070951566	20071206
US2010276379 AA	20101104	US20100834197	20100712

Priority:

US20070951566 20071206 US20100834197 20100712

Probable Assignee:

YANG YEN TANG

Assignee(s): (std):

YANG YEN TANG

Inventor(s): (std):

YANG YEN TANG

Agent(s):

ROSENBERG KLEIN AND LEE