

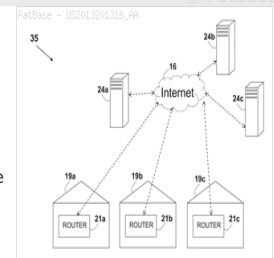
1) Family number: 54513488 (US2013201316A)

SYSTEM AND METHOD FOR SERVER BASED CONTROL

Abstract: Source: US2013201316A A system and method in a building or vehicle for an actuator operation in response to a sensor according to a control logic, the system comprising a router or a gateway communicating with a device associated with the sensor and a device associated with the actuator over in-building or in-vehicle networks, and an external Internet-connected control server associated with the control logic implementing a PID closed linear control loop and communicating with the router over external network for controlling the in-building or in-vehicle phenomenon. The sensor may be a microphone or a camera, and the system may include voice or image processing as part of the control logic. A redundancy is used by using multiple sensors or actuators, or by using multiple data paths over the building or vehicle internal or external communication. The networks may be wired or wireless, and may be BAN, PAN, LAN, WAN, or home networks.

Probable Assignee: MAY PATENTS LTD

Earliest Publication Date: 20130808



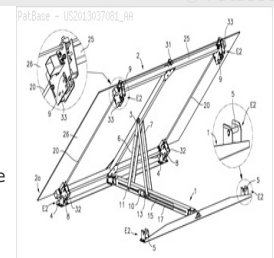
2) Family number: 53003523 (US2013037081A)

SOLAR TRACKER

Abstract: Source: US2013037081A The solar tracker comprises a base (1) and a solar panel (2) having first and second opposite ends (2a, 2b). The first end (2a) can be connected to the base (1) by a first shaft (E1) and the second end (2b) can be connected to the base (1) by a second shaft (E2), such that said solar panel (2) can pivot with respect to the base (1) alternately around the first shaft (E1) and around the second shaft (E2) under the drive of a lifting mechanism. An automatic connection/disconnection device connects the second end (2b) of the solar panel (2) to the base (1) while at the same time disconnecting the first end (2a) of the solar panel (2) from the base (1), and vice versa, every time the solar panel (2) reaches a position parallel to the base (1) for inverting the inclination of the solar panel (2) with respect to the base (1).

Probable Assignee: SOLTEC ENERGIAS RENOVABLES SL

Earliest Publication Date: 20130208



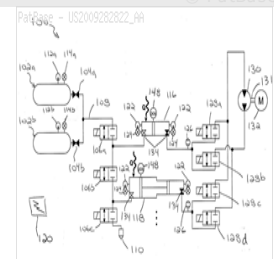
3) Family number: 43836157 (US2009282822A)

SYSTEMS AND METHODS FOR ENERGY STORAGE AND RECOVERY USING COMPRESSED GAS

Abstract: Source: US2009282822A The invention relates to methods and systems for the storage and recovery of energy using open-air hydraulic-pneumatic accumulator and intensifier arrangements that combine at least one accumulator and at least one intensifier in communication with a high-pressure gas storage reservoir on a gas-side of the circuits and a combination fluid motor/pump, coupled to a combination electric generator/motor on the fluid side of the circuits.

Probable Assignee: SUSTAINX INC

Earliest Publication Date: 20091015



4) Family number: 63050403 (US2016261224A)

FLUIDIC ACTUATOR SYSTEM AND METHOD

Abstract: Source: US2016261224A A pneumatically actuated solar panel array system that includes a plurality of separate actuator assemblies that each have a top plate and bottom plate and a first and second bellows that each extend between and are coupled to the top and bottom plates at a respective top head and bottom head, the first and second bellows being configured to be separately pneumatically inflated, where the pneumatic inflation expands the bellows along a length. The pneumatically actuated solar panel array system can also include a plurality of solar panels coupled to the actuator assemblies with the solar panels being configured to be actuated based on inflation of one or more bellows associated with the plurality of actuator assemblies.

Probable Assignee: SUNFOLDING INC

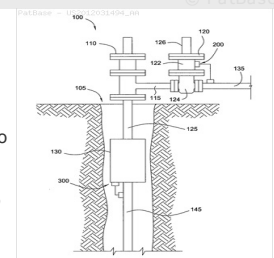
Earliest Publication Date: 20160804



5) Family number: 50609879 (US2012031494A)

SAFETY VALVE CONTROL SYSTEM AND METHOD OF USE

Abstract: Source: US2012031494A A safety valve control system may include a remotely operable control assembly; a first transducer, a valve assembly, and a pump assembly in communication with the control assembly; and a fluid reservoir in communication with the valve and pump assemblies and a safety valve. The control assembly is operable to actuate the pump and valve assemblies to supply and return fluid from the fluid reservoir to actuate the safety valve into open and closed positions, in response to one or more signals received from the first transducer. A method of operation may include maintaining the safety valve in an open position while sensing a physical property with the control system; communicating a signal corresponding to the sensed physical property to the control system; and automatically closing the safety valve in response to a comparison of the sensed physical property to a pre-set condition.



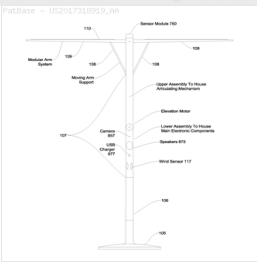
Probable Assignee: SAFOCO INC
Earliest Publication Date: 20120209

6) Family number: 67434897 (US2017318919A)

AUTOMATED INTELLIGENT SHADING OBJECTS AND COMPUTER-READABLE INSTRUCTIONS FOR INTERFACING WITH, COMMUNICATING WITH AND CONTROLLING A SHADING OBJECT

Abstract: Source: US2017318919A An intelligent shading object comprises a base assembly and an umbrella support assembly. The umbrella support assembly is coupled to the base assembly and comprises a first processor and a first motor assembly. The first motor assembly rotates an umbrella support assembly about a vertical axis in response to commands and/or signals generated by the first processor. The umbrella assembly further comprises a stem assembly and a center support assembly, where the center support assembly further comprises a second processor, a second motor assembly, a lower assembly, an upper assembly, and a hinging assembly. The second processor communicates signals and/or commands to the second motor assembly and the second motor assembly drives the upper assembly to rotate with respect to the lower assembly via the hinging assembly.

Probable Assignee: SHADECRAFT LLC
Earliest Publication Date: 20171109

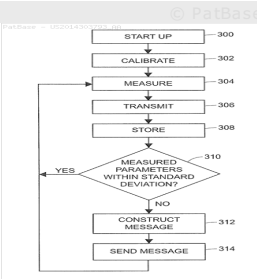


7) Family number: 57563330 (US2014303793A)

INTELLIGENT ACTUATOR AND METHOD OF MONITORING ACTUATOR HEALTH AND INTEGRITY

Abstract: Source: US2014303793A An intelligent actuator for a control valve includes an actuator body, an actuator rod, a biasing device, a controller, and at least one sensor. The actuator body includes an actuator casing defining a cavity. The actuator rod is adapted to be coupled to a control element of a control valve. The biasing device is disposed in the cavity of the actuator housing and operably coupled to the actuator rod for biasing the actuator rod into a predetermined position. The controller is carried by the actuator body and includes a memory, a processor, and logic stored on the memory. The at least one sensor is operably coupled to the controller for measuring various parameters of the actuator and transmitting those parameters to the controller. The at least one sensor can include one or more vibration sensors, one or more acoustic sensors, one or more temperature sensors, etc.

Probable Assignee: FISHER CONTROLS INT LLC
Earliest Publication Date: 20141009

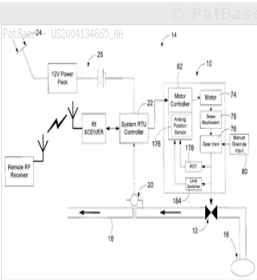


8) Family number: 30725313 (US2004134665A)

ACTUATOR FOR WELL-HEAD VALVE OR OTHER SIMILAR APPLICATIONS AND SYSTEM INCORPORATING SAME

Abstract: Source: US2004134665A An electrical actuator is particularly suited for driving a wellhead valve for regulating the flow of natural gas from a production well. The electrical actuator can be driven using the existing local power supply in wellhead valve systems, typically a solar panel and a battery. The electrical actuator may include a gear reduction train, a brake and a manual input override with clutch protection. The electrical actuator can be configured in three different operational modes that provides a predetermined position upon power loss including fail-bias fixed, fail open and fail bias closed.

Probable Assignee: WOODWARD GOVERNOR CO
Earliest Publication Date: 20040715

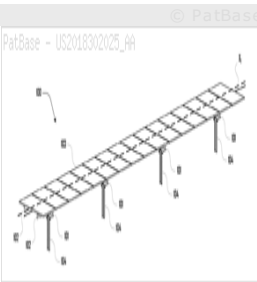


9) Family number: 71541427 (US2018302025A)

PNEUMATIC ACTUATOR SYSTEM AND METHOD

Abstract: Source: US2018302025A An actuator that includes a bottom plate, a top-plate, and a first and second hub assembly extending between the bottom and top plates. The actuator can further include a first and second bellows disposed on opposing sides of the hub assemblies, the first and second bellows each extending between and coupled to the top plate and bottom plate. The actuator can also include a plurality of washers disposed between the top and bottom plates, with each of the washers coupled to the first and second hub assembly, a first set of the plurality of washers surrounding the first bellows and a second set of the plurality of washers surrounding the second bellows.

Probable Assignee: SUNFOLDING INC
Earliest Publication Date: 20181018

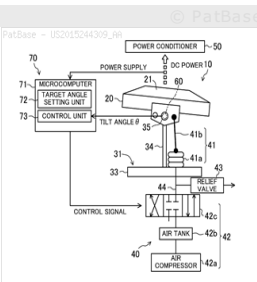


10) Family number: 55931123 (US2015244309A)

SOLAR PANEL UNIT

Abstract: Source: US2015244309A A solar panel unit (10) includes a control unit (73) which operates an actuator (41) such that an angle of a solar panel (20) coincides with a predetermined command angle. The control unit (73) performs reset control for resetting the angle of the solar panel (20) misaligned due to strong wind. In the reset control, the actuator (41) is not operated until a predetermined time has passed since the angle of the solar panel (20) was misaligned to wait for the strong wind to stop, and then the actuator (41) is operated to reset the angle of the solar panel (20).

Probable Assignee: DAIKIN IND
Earliest Publication Date: 20140219



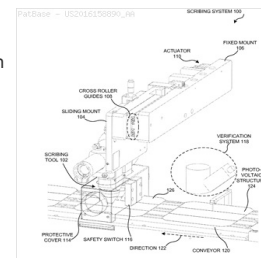
11) Family number: 62552710 (US2016158890A)

SYSTEMS AND METHODS FOR SCRIBING PHOTOVOLTAIC STRUCTURES

Abstract: Source: US2016158890A 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.

Probable Assignee: SOLARCITY CORP

Earliest Publication Date: 20160609



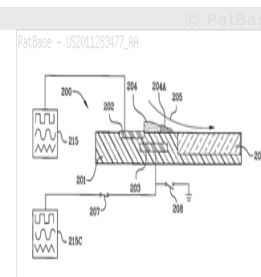
12) Family number: 49399117 (US2011283477A)

DUST REMOVAL FROM SOLAR CELLS

Abstract: Source: US2011283477A A solar panel cleaning device includes a solar panel having a plurality of photovoltaic cells arranged in rows and embedded in the solar panel with space between the rows. A transparent dielectric overlay is affixed to the solar panel. A plurality of electrode pairs each of which includes an upper and a lower electrode are arranged on opposite sides of the transparent dielectric and are affixed thereto. The electrodes may be transparent electrodes which may be arranged without concern for blocking sunlight to the solar panel. The solar panel may be a dielectric and its dielectric properties may be continuously and spatially variable. Alternatively the dielectric used may have dielectric segments which produce different electrical field and which affects the wind "generated."

Probable Assignee: NASA

Earliest Publication Date: 20110816



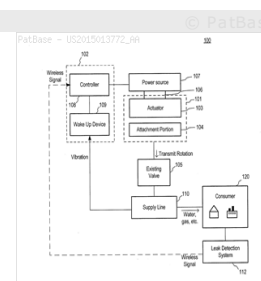
13) Family number: 54344509 (US2015013772A)

AUTOMATIC VALVE SHUTOFF DEVICE AND METHODS

Abstract: Source: US2015013772A Examples of automatic valve shutoff systems are described which may include an actuation device including an actuator and a valve attachment portion. The valve attachment portion may be configured for attachment with an existing valve in a fluid or compressible gas supply line. The system may further include a controller coupled to the actuation device, wherein the controller is configured to initiate a valve shutoff process in response to a wireless signal. Wake-up circuitry may be coupled to the controller and configured to monitor the supply line for vibrations and activate the controller in response to the vibrations.

Probable Assignee: UNIV WASHINGTON THROUGH ITS CENTER FOR COMMERCIALIZATION

Earliest Publication Date: 20130718



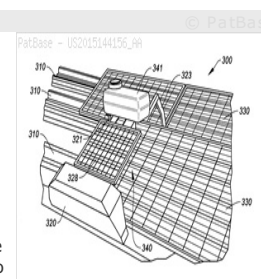
14) Family number: 58695224 (US2015144156A)

SYSTEMS, VEHICLES, AND METHODS FOR MAINTAINING RAIL-BASED ARRAYS OF PHOTOVOLTAIC MODULES

Abstract: Source: US2015144156A A system includes an elongated rail including support surfaces and a mounting surface disposed between the support surfaces. Photovoltaic modules can be coupled to the mounting surface and raised relative to the support surfaces. A first maintenance vehicle can include a cleaning head, actuator, motor, and support legs. The support legs can suspend the cleaning head over the photovoltaic modules and can be respectively movably coupled to the support surfaces so as to laterally and sequentially move the cleaning head parallel to the elongated rail and across each of the photovoltaic modules responsive to actuation of the motor. At least a portion of the cleaning head can be vertically movable between a disengaged position spaced apart from the photovoltaic modules and an engaged position in contact with at least one of the photovoltaic modules responsive to actuation of the actuator.

Probable Assignee: ALION ENERGY INC

Earliest Publication Date: 20150312



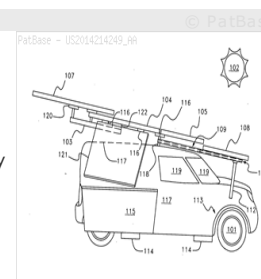
15) Family number: 57085737 (US2014214249A)

THIN SAFE VEHICLE WHOSE SOLAR ARRAY CAN SUPPLY ITS POWER NEEDS

Abstract: Source: US2014214249A This device is an ultra-thin vehicle where no more than twenty five percent of its solar array extends beyond the vehicle when it is being driven and the solar array is undeployed. However, this same solar array will cover an area at least twice as large as the vehicle when it is parked and the array is fully deployed. This solar array is also designed to make it possible to easily orient it towards the sun during the majority of time when it is parked. Hence, solar power can be the primary source of power for a typical driver due to the lowered power needs of this tapered ultrathin vehicle.

Probable Assignee: FREEMAN BENJAMIN DAVID

Earliest Publication Date: 20140731



16) Family number: 50553347 (US2013278067A)

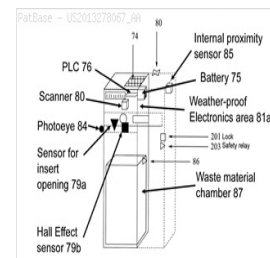
ELECTRICALLY-POWERED PROGRAMMABLE WASTE ENCLOSURE

PatBase - US2013278067A

Abstract: Source: US2013278067A This invention is directed towards a waste enclosure device ("device") comprising a waste enclosure employing operational functions including collection and monitoring capacity wherein said device includes one or more programmable logic controllers. Operational functions are performed by electrical components including sensors to determine waste deposits characteristics and contents. Said device operational functions are further adapted to send and receive data, optionally wirelessly, and configured and adapted to utilize solar derived electric power and, optionally, electric power from other sources.

Probable Assignee: BIG BELLY SOLAR INC

Earliest Publication Date: 20120202



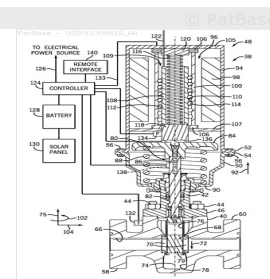
17) Family number: 50124865 (US2011308619A)

ELECTRONICALLY ACTUATED GATE VALVE

Abstract: Source: US2011308619A A system, in certain embodiments, includes a gate valve including a gate disposed within a valve body. The gate valve also includes a motorized ball screw actuator having an actuating rod assembly directly coupled to the gate. The motorized ball screw actuator is configured to linearly actuate the actuating rod assembly to drive the gate between an open position and a closed position.

Probable Assignee: CAMERON INT CORP

Earliest Publication Date: 20111222



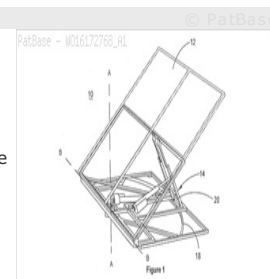
18) Family number: 63916053 (WO16172768A1)

A SOLAR PANEL SYSTEM

Abstract: A solar panel system for mounting on a vehicle, the solar panel system including a solar panel for converting sunlight to electrical energy, an actuator that is operable to position the solar panel into different positions, and a controller that receives location data of the vehicle to which the solar panel can be mounted and known sun position data defining the position of the sun in the sky to determine an optimal operating position for the solar panel in which incident sunlight on the solar panel is maximized, and the controller is operable to move the actuator to position the solar panel at the optimal operating position.

Probable Assignee: ELITE CARAVANS AUSTRALIA PTY LTD

Earliest Publication Date: 20161103



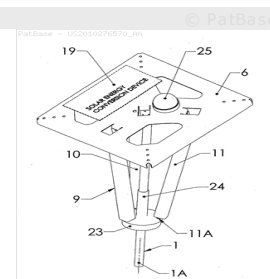
19) Family number: 43384460 (US2010276570A)

LIGHT SOURCE TRACKER

Abstract: Source: US2010276570A A tracking device for automatically following a moving light source that is detectable in the presence of ambient light. A carrier platform including one or more radiant energy conversion devices and a sensor array is mounted to an upright support column with a universal joint. Three independently-operated, linear actuators are equally angularly spaced about the support column with an upper end connected to the carrier platform with a universal hinge and a lower end connected to a floating base with a spherical hinge. A sensor array carried by the carrier platform includes a primary sensor associated with each actuator. During operation, when a primary sensor is not receiving direct radiant energy, the actuator retracts, and when it is receiving radiant energy directly, the actuator extends. The result is that the platform will directly track the sun across the horizon.

Probable Assignee: MARK MOSER

Earliest Publication Date: 20090618



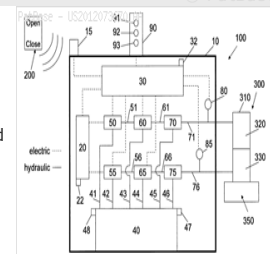
20) Family number: 50818324 (US2012073670A)

VALVE ACTUATOR CONTROL SYSTEM AND METHOD OF USE

Abstract: Source: US2012073670A A valve actuator control system for use with a valve actuator may include two pump assemblies, two control valve assemblies, two transducers, a fluid reservoir, and a controller assembly. The controller assembly may actuate the pump assemblies to direct fluid from the fluid reservoir to the valve actuator, and may actuate the control valve assemblies to direct fluid from the valve actuator to the fluid reservoir. A method of actuating a valve actuator using a valve actuator control system may comprise sending a signal to the valve actuator control system, injecting pressurized fluid from a fluid reservoir of the valve actuator control system into a first chamber of the valve actuator, discharging pressurized fluid from a second chamber of the valve actuator into the fluid reservoir, and actuating the valve actuator from a first position to a second position.

Probable Assignee: SAFOCO INC

Earliest Publication Date: 20120322



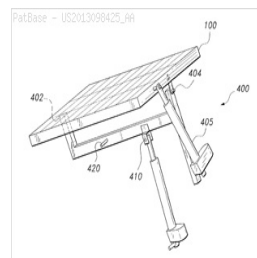
21) Family number: 53536676 (US2013098425A)

DUAL AXIS SOLAR TRACKER APPARATUS AND METHOD

Abstract: Source: US2013098425A The dual axis solar tracker apparatus and method uses an azimuth actuator to adjust the azimuth of an attached solar panel and an elevation actuator to adjust the elevation of a panel seat holding the solar panel to track the azimuth and elevation of the sun as it moves through the sky. The panel seat rotatably supports the solar panel with two pins, and a support structure supports the panel seat with an elevation tracking pivot. The actuators are controlled with an actuator controller circuit that is controlled by a microcontroller. The microcontroller uses information about latitude, longitude, time of day and date to control the actuators and track the motion of sun without the need for sensors.

Probable Assignee: KING SAUD UNIV

Earliest Publication Date: 20130425



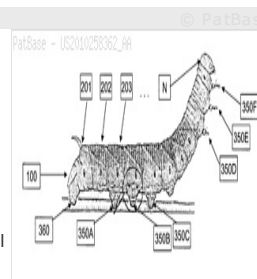
22) Family number: 43401805 (US2010258362A)

ACTUATOR POWERED DEFORMABLE SOFT-BODIED AUTONOMOUS PLATFORMS

Abstract: Source: US2010258362A The present solution described herein provides apparatuses, methods and systems for coordinating and controlling movement of soft-bodied robots, or soft-bodied platforms. A soft-bodied robot may move across a terrain by morphing, deforming, expanding, shrinking, extending, contracting, twisting, untwisting, bending or straightening of its body using actuators positioned within the body. The body may be divided into many segments. The segments may be moved or controlled by actuators that are attached to various sections of the body. The actuators may deform or reshape themselves to induce movement onto the soft-bodied robot whose soft material body walls allow for morphing and deformation. The soft-bodied robot may further include systems and apparatuses for controlling and coordinating the movement of the robots and performing any additional functionality.

Probable Assignee: TUFTS UNIV

Earliest Publication Date: 20090625



23) Family number: 57138449 (WO14120255A1)

MULTILEVEL VEHICLE ROOF SUPPORTING A DEPLOYABLE SOLAR ARRAY

Abstract: A vehicle with multi-layered roof and a solar array comprising at least three solar panels mounted on various parts of that roof. When driving the vehicle, none of the solar panels will extend beyond the outer perimeter thereof, and when parked, the various solar panels can be repositioned in such a way that their total footprint is more than twice the total footprint of the vehicle. An onboard computer, that helps the driver do a variety of tasks that are not normally necessary for typical vehicles is present as an integral part of this device so that decisions about how, why and when to deploy solar panels and other mechanisms, along with decisions about when to stop for recharging involving levels of information processing which a normal person would be better off allowing the onboard computer to accomplish.

Probable Assignee: DAVID FREEMAN BENJAMIN

Earliest Publication Date: 20140807



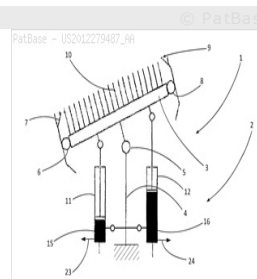
24) Family number: 49179715 (US2012279487A)

METHOD FOR AUTOMATIC ORIENTATION OF A SOLAR PANEL DEVICE AND DEVICE OPERATING ACCORDING TO SAID METHOD

Abstract: Source: US2012279487A Method for orientation of a solar panel device (3), wherein the solar panel device is oriented with respect to at least one axis (5), in a first direction and in a second direction, using energy from a first fluid reservoir (6) or a second fluid reservoir (8), the energy being provided by the solar radiation and the two reservoirs being independent, and wherein the solar panel device is oriented with respect to the axis (5), in the first direction or in the second direction, until a distributor valve (13, 14) prevents feeding of one of the actuator chambers by one of the chambers of a reservoir.

Probable Assignee: COMMISSARIAT A LENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

Earliest Publication Date: 20110707



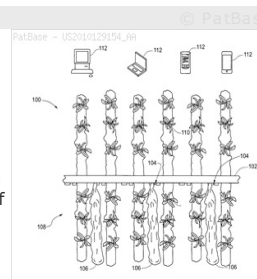
25) Family number: 45027897 (US2010129154A)

AUTOMATIC GATED PIPE ACTUATOR

Abstract: Source: US2010129154A An automatic gated-pipe actuator for controlling flow of an irrigation material to an agricultural region through an irrigation gate in a gated-irrigation pipe. The automatic gated-pipe actuator includes a gate valve for coupling to the gated-irrigation pipe, a gate actuator removably coupled to the gate valve and for actuating the gate valve and an automatic gated pipe gate control unit for controlling actuation of the gate valve. The control unit has a processor unit communicatively coupled to the gate actuator. Upon instruction from the gate control unit, the gate actuator will actuate and alter the disposition of the gate valve thereby altering the flow of irrigation material through the irrigation gate and to a portion of the agricultural region adjacent the irrigation gate.

Probable Assignee: FINE LINE IND INC

Earliest Publication Date: 20100527



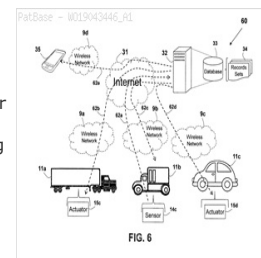
26) Family number: 73433714 (WO19043446A1)

A METHOD AND APPARATUS FOR COLLECTING AND USING SENSOR DATA FROM A VEHICLE

Abstract: A road hazard, such as a traffic collision, traffic regulation violation, road surface damage, or any other traffic obstruction, is detected by a sensor in a vehicle. The sensor data is sent periodically, or upon detecting the anomaly, to a server over the Internet via a first wireless network, together with a vehicle identifier (Vehicle Identification Number (VIN) or the license plate number) and its GNSS or GPS geographic location. The server analyzes the sensor data, and in response sends a notification message to a client device, such as a smartphone, or to a group of vehicles in close vicinity to the first vehicle, via a wireless network over the Internet. The received message may be used by each of the vehicles in the group for controlling, limiting, activating, or otherwise affecting an actuator operation, or may be used for notifying the driver using a dashboard display.

Probable Assignee: NNG SOFTWARE DEV AND COMMERCIAL LLC

Earliest Publication Date: 20190307



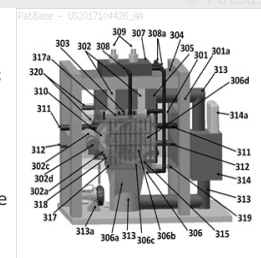
27) Family number: 60956126 (US2017104426A)

ELECTRICAL POWER GENERATION SYSTEMS AND METHODS REGARDING SAME

Abstract: Source: US2017104426A A solid or liquid fuel to plasma to electricity power source that provides at least one of electrical and thermal power comprising (i) at least one reaction cell for the catalysis of atomic hydrogen to form hydridinos, (ii) a chemical fuel mixture comprising at least two components chosen from: a source of H₂O catalyst or H₂O catalyst; a source of atomic hydrogen or atomic hydrogen; reactants to form the source of H₂O catalyst or H₂O catalyst and a source of atomic hydrogen or atomic hydrogen; one or more reactants to initiate the catalysis of atomic hydrogen; and a material to cause the fuel to be highly conductive, (iii) a fuel injection system such as a railgun shot injector, (iv) at least one set of electrodes that confine the fuel and an electrical power source that provides repetitive short bursts of low-voltage, high-current electrical energy to initiate rapid kinetics of the hydridino reaction and an energy gain due to forming hydridinos to form a brilliant-light emitting plasma, (v) a product recovery system such as at least one of an augmented plasma railgun recovery system and a gravity recovery system (vi) a fuel pelletizer or shot maker comprising a source of hydrogen and a source of H₂O, a dripper and a water bath to form fuel pellets or shot, and an agitator to feed shot into the injector, and (vii) a power converter capable of converting the high-power light output of the cell into electricity such as a concentrated solar power device comprising a plurality of ultraviolet (UV) photoelectric cells or a plurality of photoelectric cells, and a UV window.

Probable Assignee: BRILLIANT LIGHT POWER INC

Earliest Publication Date: 20151203



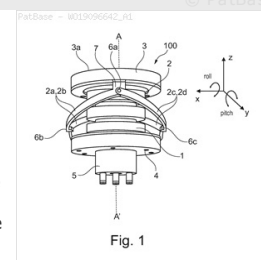
28) Family number: 74335805 (WO19096642A1)

ACTUATOR, MECHANISM COMPRISING THE ACTUATOR, SOLAR ENERGY HARNESSING APPARATUS, ARRANGEMENT OF BUILDINGS, AND A METHOD FOR MANUFACTURING THE ACTUATOR

Abstract: An actuator (100) for moving and securing an object (25) in a specific orientation is provided. The actuator (100) extends essentially along its longitudinal axis (AA'), and includes a flexible structure (1) having multiple inflatable chambers (10a, 10b, 10c). In a pressurized state of the actuator (100), on account of the pressure difference created between the chambers (10), on or more of the chambers (10) inflate, and the flexible structure (1) bends at least along one axis perpendicular to the longitudinal axis (AA'). A stiffening means (2) of the actuator is connected to the flexible structure (1) at least along two positions (6a, 6b, 6c) located at an offset to the longitudinal axis (AA'). The stiffening means (2) provides bending stiffness to the actuator (100), firmly securing the actuator (100) in the specific orientation. A mechanism (140) secures and mechanically connects the actuator (100) to the object (25), and the object (25) may be a solar panel or a reflective plate. A solar energy harnessing apparatus (120) is further provided, including multiple such mechanisms (140) mounted over the facade (27) of a building (26), for trapping solar energy.

Probable Assignee: ETH ZUERICH

Earliest Publication Date: 20190515



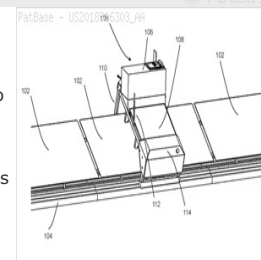
29) Family number: 71612998 (US2018316303A)

SYSTEMS AND METHODS FOR CLEANING ARRAYS OF SOLAR PANELS

Abstract: Source: US2018316303A Under one aspect, a system for cleaning an array of solar panels is provided. The system includes a drive system and a cleaning head that includes a fluid emitter configured to deposit fluid onto the solar panels; a wiper; a wiper support structure; and spaced first and second mechanical linkages that respectively couple first and second portions of the wiper to the wiper support structure partially independently of one another and partially independently of the wiper support structure such that the wiper sequentially substantially fully contacts each of the solar panels to wipe the deposited fluid from those solar panels as the drive system moves along the array.

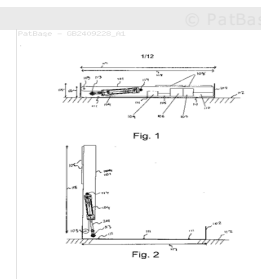
Probable Assignee: ALION ENERGY INC

Earliest Publication Date: 20181025



30) Family number: 30201452 (GB2409228A)

DEVICE FOR RESTRICTING VEHICLE ACCESS



Abstract: Source: GB2409228A The device, for restricting vehicle access for security purposes, reserving parking spaces etc., comprises a support 102 to which a post 101 is connected via a pivot 103, an actuator 104 configured to move the post between a first position to allow access and a second position to prevent access, at least one electrochemical cell and at least one device for converting a renewable energy source into electricity to charge the cell. The actuator may comprise a pneumatic linear actuator, a fluidic muscle, an electric motor or an air motor. The device for converting a renewable energy source is preferably one or more solar panels 108, which are preferably located on the post. The support may include ramps to allow vehicles to cross the post when it is in a lowered position. The post is preferably shaped so that in the first, lowered position the panels are at an angle to the horizontal to allow rainwater to run off the panels. The post may comprise a pneumatic linear actuator, an air compressor, a receiver for storing compressed air and control pneumatics and electronics, which are preferably located in a hollow chamber in the post. The device may include a receptor to allow remote control of the device, preferably by radio waves. A releasable lock, preferably a shotbolt, may lock the post in the second, raised position. The support is preferably fixed to the ground with bolts 111, with the bolts and pivot preferably being configured to break in response to a predetermined shear force. The actuator may be disposed at a vertically higher located when the post is in the first position. Also claimed is a kit of parts for a device for restricting access by a vehicle and apparatus for actuating a pneumatic linear actuator.

Probable Assignee: BLAKE UK LTD

Earliest Publication Date: 20050622

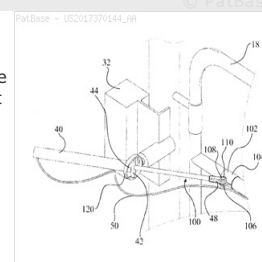
31) Family number: 62801774 (US2017370144A)

AUTOMATIC PNEUMATICALLY-ACTUATED GATE AND LATCH

Abstract: Source: US2017370144A A pneumatically actuated gate assembly, and a kit for making the assembly are provided. The assembly comprising: a gate with an at least one hinge; a battery; a compressed gas cylinder; a first support pivotally supporting the gate with the hinges; a second support; a latch movably mounted on the gate; a keeper for releasable engagement with the latch, the keeper mounted on the second support; a compressed gas system in fluid communication with the compressed gas cylinder; a gate pneumatic system in fluid communication with the compressed gas system, and including a gate pneumatic ram pivotally attached to the first support at a proximal end and attached to the gate at a distal end; a latch pneumatic system in fluid communication with the compressed gas system, and including a latch pneumatic ram attached to the gate and the latch; and a controller, wherein the compressed gas system is configured to provide a controllable pressure of gas to the gate pneumatic system and the latch pneumatic system under control of the controller. A method of using the assembly is also provided.

Probable Assignee: BERGERON BONNIE

Earliest Publication Date: 20160630



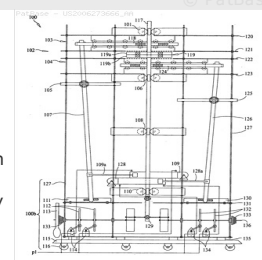
32) Family number: 33197329 (US2006273666A)

PERMANENT MAGNET FLUX MODULE RECIPROCATING ENGINE AND METHOD

Abstract: Source: US2006273666A A permanent magnet reciprocating engine and method are provided wherein a first field plate having magnetic fields of two polarities interact with the magnetic field of a magnet located on a piston plate. The first field plate is moved to alternately bring the magnetic field of a first polarity and the magnetic field of a second polarity into alignment with the magnetic field of the piston plate, thus alternately attracting and repelling the piston plate to the field plate. The piston plate is connected to a piston rod, which reciprocates along an axis as a result of the alternately attractive and repulsive forces exerted on the piston plate by the field plate. A translation mechanism, such as a crankshaft, translates the linear motion of the piston rod along the axis into rotary motion that can be harnessed as power.

Probable Assignee: MIHAJLOVIC MIODRAG

Earliest Publication Date: 20060810



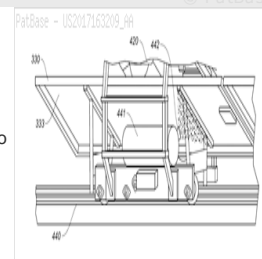
33) Family number: 65837449 (US2017163209A)

SYSTEMS, VEHICLES, AND METHODS FOR MAINTAINING RAIL-BASED ARRAYS OF PHOTOVOLTAIC MODULES

Abstract: Source: US2017163209A A system for maintaining photovoltaic modules includes an elongated rail including first and second support surfaces and a first mounting surface disposed between the first and second support surfaces. An array of the photovoltaic modules is coupled to the first mounting surface and raised relative to the first and second support surfaces. A first vehicle can be disposed on the first and second support surfaces and can include a motor; a maintenance module selected from the group consisting of: a spray system configured to spray a product, and a remote inspection module; and first and second support legs suspending the maintenance module relative to the photovoltaic modules of the first array and being movably coupled to the first and second support surfaces so as to laterally and sequentially move the maintenance module in a direction parallel to the elongated rail responsive to actuation of the motor.

Probable Assignee: ALION ENERGY INC

Earliest Publication Date: 20170601



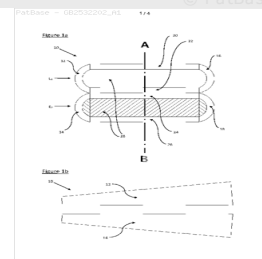
34) Family number: 58288366 (GB2532202A)

SOLAR PANEL ARRANGEMENT

Abstract: Source: GB2532202A A solar panel arrangement 10 comprising one or more solar panels arranged to form an enclosure, and a control system that controls the position of the enclosure relative to the sun, wherein the or each solar panel has a substrate 20,22,24,26 with a light-responsive layer 28 on one side thereof, the enclosure has an open end 32 to admit photons, a closed end 34 opposite the open end 32, and one or more internal surfaces between the open end 32 and the closed end 34, one or more of the internal surfaces of the enclosure being the light-responsive side of the or each constituent solar panel. Wherein the or each enclosure may comprise a first main solar panel 20 opposing a second main solar panel 22. The or each enclosure may also comprise a first side solar panel opposing a second side solar panel. The or each enclosure may also be mounted in a supporting structure. The control system may include an actuator to adjust the position of the supporting structure. The V-shaped arrangement of the solar panels allows incident light to internally reflect off of the opposing sets of panels to increase absorption.

Probable Assignee: DREWES DIETMAR

Earliest Publication Date: 20160518



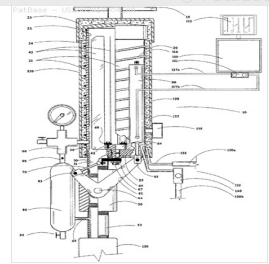
35) Family number: 27910984 (US2003010504A)

SOAP STICK LAUNCHER AND METHOD FOR LAUNCHING SOAP STICKS

Abstract: Source: US2003010504A A stick launcher and method for launching soap sticks into a gas or oil well. The stick launcher comprises a containment vessel adapted to house the soap sticks, the containment vessel comprising a contiguous wall and a top and a bottom. A turret-style separator is positioned within the containment vessel, the separator comprising blades, and adapted to contain the soap sticks between the blades of the turret-styled separator and the contiguous wall of the containment vessel. A ball valve is positioned adjacent the bottom of the containment vessel, the ball valve, when in open position, adapted to be in fluid communication with a well bore and the containment vessel. A rotating assembly, when set in motion by an actuator, is used to rotate the separator and simultaneously open or close the ball valve. The rotating assembly comprises a ratchet mechanism and an actuator plate that, while acting on the separator to advance a soap stick into position in the passage way, opens and closes the ball valve so that the containment vessel and soap sticks have minimal contact with the moisture laden fluids of the well bore.

Probable Assignee: THREE RIVERS RESOURCE LP

Earliest Publication Date: 20030103



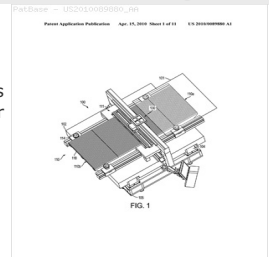
36) Family number: 44896641 (US2010089880A)

LASER MACHINING SYSTEMS AND METHODS WITH DEBRIS EXTRACTION

Abstract: Source: US2010089880A Laser machining systems and methods may include debris removal systems to remove debris generated by the machining process and/or outgassing or filtration systems to remove harmful gases and filter and recycle air within the system. The laser machining systems and methods may be used to scribe one or more lines in large flat workpieces such as solar panels. In particular, laser machining systems and methods may be used to scribe lines in thin film photovoltaic (PV) solar panels with accuracy, high speed and reduced cost.

Probable Assignee: IPG PHOTONICS CORP

Earliest Publication Date: 20100415



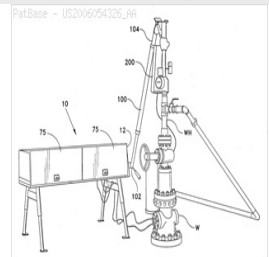
37) Family number: 32713198 (US2006054326A)

AUTOMATED CHEMICAL STICK LOADER FOR GAS WELLS AND METHOD OF LOADING

Abstract: Source: US2006054326A The automated chemical stick loader includes a ground-based stick storage and dispensing cabinet, an automated valve actuating system atop the wellhead, and a fixed stick transfer tube extending between the storage and dispensing cabinet and the top of the wellhead. A series of chemical sticks are stored in an endless conveyor in the cabinet, with the cabinet dispensing the sticks singly and sequentially to the bottom of the transfer tube upon actuation of the system. Sticks are pushed linearly up the transfer tube until reaching the top of the wellhead, whereupon the topmost stick falls into the well when the valves are actuated to allow passage of the stick therethrough.

Probable Assignee: ALVES LEE

Earliest Publication Date: 20060227



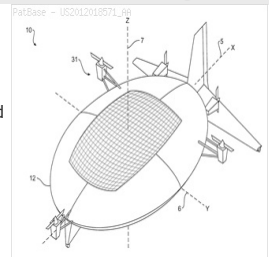
38) Family number: 50505465 (US2012018571A)

SYSTEM AND METHOD FOR SOLAR-POWERED AIRSHIP

Abstract: Source: US2012018571A A solar-powered airship with a hull configured to contain a gas and at least one propulsion assembly with a propulsion device and electric motors configured to drive the propulsion device. The airship may also include a power supply system including solar panels operatively coupled to the electric motors and configured to supply power to the electric motors. The power supply system may also include batteries operatively coupled to the solar panels and configured to receive and store electrical energy supplied by the solar panels, the batteries being further operatively coupled to the electric motors and configured to supply power to the electric motors. The batteries may each be located within an outer envelope of the airship defined by the hull of the airship in a position selected to provide ballast. The solar-powered airship may also include a cargo system configured to contain passengers or freight.

Probable Assignee: LTA CORP

Earliest Publication Date: 20120126



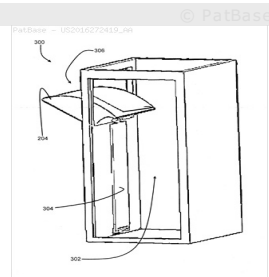
39) Family number: 60272091 (US2016272419A)

WASTE MANAGEMENT DEPOSIT AND COMPACTION STATION WITH WIRELESS CAPABILITY

Abstract: Source: US2016272419A A multipurpose refuse receptacle comprising an outer shell defining an inner chamber, a receiving assembly disposed within the inner chamber, and a door assembly. The door assembly is movable between an open position and a close position. The receptacle has a basket carrier and a basket, the basket being disposable within the basket carrier. Further, a hydraulic lift assembly is operably coupled to the basket carrier, the hydraulic lift assembly having a pump assembly. A mechanism is operably coupled to the pump assembly and the door assembly, the mechanism being movable in a first direction. Wherein, when the mechanism is moved in the first direction the door assembly moves to the open position. Further wherein, when the mechanism is moved in the first direction, hydraulic pressure is generated by the pump assembly.

Probable Assignee: ICAN LLC

Earliest Publication Date: 20150903



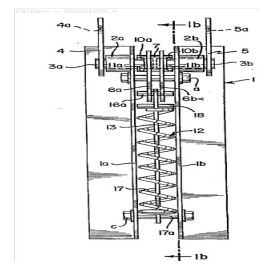
40) Family number: 13115747 (US5641059A)

ACTUATOR FOR A SWITCH HAVING INDEPENDENTLY ROTATABLE HALFSHAFTS

Abstract: Source: US5641059A An actuator for use in operating switches such as air break switches of the type used on overhead power systems. The actuator is based on an over-center mechanism. Movement of an operating arm indirectly drives a drive arm via the over-center mechanism with the energy of a resilient member being used to regulate the opening of a switch connected to the drive.

Probable Assignee: DULMISON NZ LTD

Earliest Publication Date: 19930603



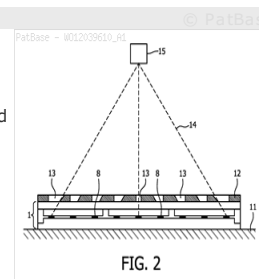
41) Family number: 50846654 (WO12039610A1)

METHOD AND APPARATUS FOR SOLDERING CONTACTS IN A SOLAR PANEL

Abstract: The invention relates to a method and an apparatus for soldering electrical contacts in a solar panel, comprising a back sheet foil with a number of first contacts, a number of solar cells each having a number of second contacts, to be connected to the first contacts, a front layer and solder paste pads applied to the first contacts or second contacts, wherein heat is locally applied to the solder to make it melt and form connections after solidifying, wherein at least during the soldering the solar panel is compressed in the direction perpendicular to its main plane. The forces thus developed will compress the solar panel to such an extent that the forming of bulges is prevented and the quality of the solder joints is improved.

Probable Assignee: SOLLAND SOLAR CELLS BV

Earliest Publication Date: 20120327



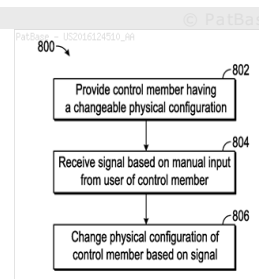
42) Family number: 62233943 (US2016124510A)

TACTILE CONTROL SYSTEM

Abstract: Source: US2016124510A A tactile control system includes a control member configurable between a plurality of physical configurations and configured to receive manual input from a user. The tactile control system also includes a transducer coupled to the control member and configured to generate a signal based on the manual input from the user, and an actuator coupled to the transducer and the control member and configured to change the physical configuration of the control member based on the signal.

Probable Assignee: ELWHA LLC

Earliest Publication Date: 20160505



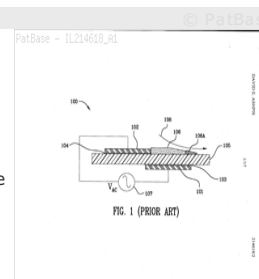
43) Family number: 50784342 (IL214618A1)

DUST REMOVAL FROM SOLAR CELLS

Abstract: Source: IL214618A1 1. A solar panel, comprising: a dielectric substrate having a top surface; at least one photovoltaic cell having a top surface embedded in the dielectric substrate, wherein the top surface of the photovoltaic cell is at least partially exposed; a first electrode; a second electrode offset relative to the first electrode; an alternating current voltage source electrically connecting the first and second electrodes and energizable to an on position; plasma created along the top surface Of the dielectric substrate when the first and the second electrodes are energized; and an air flow induced by the plasma to mechanically propel dust away from the top surface of the photovoltaic cell.

Probable Assignee: DAVID E ASHPIS

Earliest Publication Date: 20121129



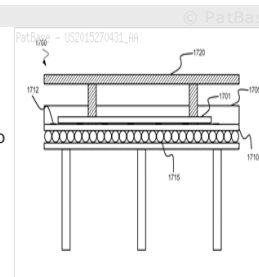
44) Family number: 60397218 (US2015270431A)

APPARATUS AND METHOD FOR PERFORMANCE RECOVERY OF LAMINATED PHOTOVOLTAIC MODULE

Abstract: Source: US2015270431A A method and apparatus for recovering and stabilizing photovoltaic performance of a thin-film solar module after lamination. The method includes a LED light soaking treatment prior to a forward biasing treatment of the thin-film photovoltaic material formed on a glass panel. The apparatus for implementing the method comprises an in-line system for loading the laminated solar panel on a conveyor to pass through a first process station to allow a brief LED light illumination followed by disposing the same laminated glass panel in a second process station to receive a forward bias treatment including applying multiple short electrical pulses with a constant current through the thin-film solar module. The photovoltaic performance of the laminated thin-film solar module after these treatments is recovered to substantially a same level obtained in a bare-circuit configuration and is stabilized substantially free from being affected by any further long-time light soaking.

Probable Assignee: STION CORP

Earliest Publication Date: 20150924

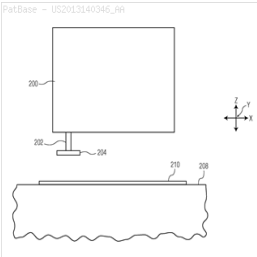


45) Family number: 49707535 (US2013140346A)

ULTRASONIC BONDING SYSTEMS AND METHODS OF USING THE SAME

Abstract: Source: US2013140346A An ultrasonic bonding system is provided. The ultrasonic bonding system includes a bond head assembly and a bonding tool supported by the bond head assembly. The system further includes a pressing member adapted to press against a bonding material bonded using the bonding tool. The pressing member is supported by the bond head assembly and is movable with respect to the bond head assembly independent of the bonding tool. The ultrasonic bonding system may also be an ultrasonic ribbon bonding system or a solar cell ribbon bonding system for bonding a ribbon material to portions of a solar cell.

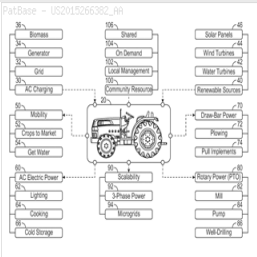
Probable Assignee: ORTHODYNE ELECTRONICS CORP
Earliest Publication Date: 20111006



46) Family number: 60395361 (US2015266382A)
MOBILE POWER CONVERSION AND DISTRIBUTION SYSTEM

Abstract: Source: US2015266382A A vehicle carries an energy storage system that powers mobility of the vehicle. The vehicle further carries a direct current input coupling to be connected to a direct current (DC) electrical power source, a DC output coupling, an alternating current (AC) input coupling, an AC output coupling, and electronics carried by the vehicle to control both AC and DC voltage and power levels.

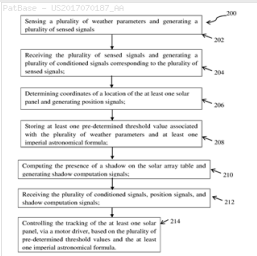
Probable Assignee: MOTIVO ENG LLC
Earliest Publication Date: 20150924



47) Family number: 65129549 (US2017070187A)
SOLAR TRACKING SYSTEM AND A METHOD THEREOF

Abstract: Source: US2017070187A The present disclosure envisages a solar tracking system. The solar tracking system of the present disclosure relates to the field of solar energy. The solar tracking system of the present disclosure has a simple operation and is self-powered and requires less maintenance. The principal use of the solar tracking system of the present disclosure is in solar power plants.

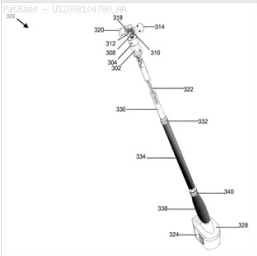
Probable Assignee: MAHINDRA SUSTEN PVT LTD
Earliest Publication Date: 20170309



48) Family number: 41515152 (US2008104780A)
SYSTEMS AND METHODS OF A GUTTER CLEANING SYSTEM

Abstract: Source: US2008104780A In embodiments of the present invention, a method of a gutter cleaning system comprises providing a housing configured to fit into a gutter, disposing at least one impeller at an end of the housing, driving the impeller with an impeller drive facility, the impeller drive facility being disposed within the housing, and attaching the housing to a placement facility for guiding the housing along the gutter.

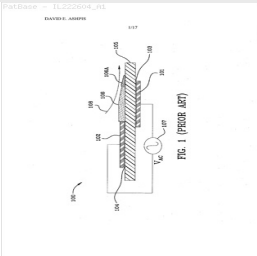
Probable Assignee: UIMAGINATION LABS LP
Earliest Publication Date: 20080221



49) Family number: 54588838 (IL222604A1)
DUST REMOVAL SYSTEM

Abstract: Source: IL222604A1 1. A dust removal system, comprising: a dielectric substrate; a first electrode embedded in the dielectric substrate; a second electrode offset relative to the first electrode; an alternating current voltage source electrically connecting the first and second electrodes and energizable to an on position; plasma created along the top surface of the dielectric substrate when the first and the second electrodes are energized; and an air flow induced by the plasma to mechanically propel dust away from an object.

Probable Assignee: DAVID E ASHPIS
Earliest Publication Date: 20130627

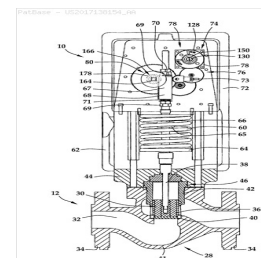


50) Family number: 65691665 (US2017138154A)
WIRELESS CONTROL VALVE

Abstract: Source: US2017138154A The subject matter of this specification can be embodied in, among other things, a process control valve including a fluid valve body having an inlet for receiving fluid, an outlet for discharging fluid, a fluid flow passage connecting the inlet and outlet, and a controllable throttling element which is moveable to selectively vary the cross-sectional area of flow of at least a portion of the passage, a valve actuator coupled to the valve body and responsive to control signals, a sensor for producing at least one signal representative of at least one of absolute pressure, gage pressure, differential pressure, flow, and temperature within the fluid flow passage, a communication system for receiving configuration information and transmitting status information, and a controller comprising a processor for receiving said signal and configuration information, for developing an output dependent upon the configuration information and the received signal, and for developing the status information.

Probable Assignee: WOODWARD INC

Earliest Publication Date: 20170518



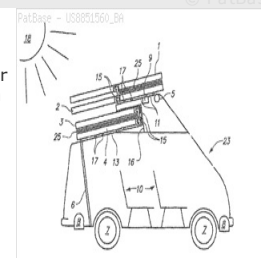
51) Family number: 57518176 (US8851560B)

MULTILEVEL VEHICLE ROOF SUPPORTING A DEPLOYABLE SOLAR ARRAY

Abstract: Source: US8851560B The device is a vehicle with a carefully designed multi-layered roof and with a solar array consisting of at least five solar panels mounted on various parts of that roof. When the vehicle is being driven none of the solar panels will extend beyond the outer perimeter of the vehicle. When the vehicle is parked, the driver will be able to cause the at least four solar panels to be repositioned in such a way that their total footprint is more than twice the total footprint of the vehicle. This vehicle will also feature an onboard computer that can help the driver do a variety of tasks that are not normally necessary for typical vehicles and which involve levels of information processing which a normal person would be better off allowing the onboard computer to accomplish.

Probable Assignee: FREEMAN BENJAMIN DAVID

Earliest Publication Date: 20141007



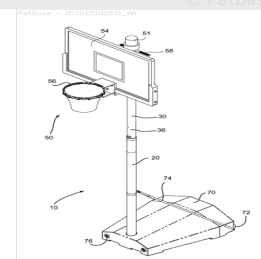
52) Family number: 59627322 (US2015182831A)

ADJUSTABLE BASKETBALL SYSTEM AND METHOD OF USE THEREOF

Abstract: Source: US2015182831A An adjustable basketball system is provided. The system includes a sleeve positioned in a substantially vertical orientation with respect to a surface upon which the system rests. The system further includes a post configured to be inserted partially within the sleeve to functionally engage the sleeve. The system further includes a basketball backboard coupled to a portion of the post not inserted within the sleeve, the basketball backboard further including the basketball rim. The system also includes an actuator that is functionally coupled to the sleeve and the post, wherein actuation of the actuator axially transitions the post with respect to the sleeve to reposition the backboard with respect to the surface.

Probable Assignee: LAMASCUS SCOTT

Earliest Publication Date: 20150702



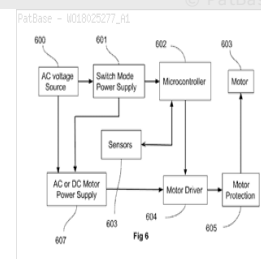
53) Family number: 63565949 (WO18025277A1)

LOW COST SINGLE AND DUAL-AXIS SOLAR TRACKER APPARATUS AND METHOD

Abstract: The invention described herein provides electrically and electronically controlled single and dual axis solar tracking apparatus. The apparatus works on solid or fluid / liquid weight displacement principle. It is simple, economic, low cost, less noisy compared to all existing Solar trackers and can be easily installed both by Industries and residents. The parts or components of solar tracker are easily accessible and replaceable and are inexpensive making it a low maintenance solar tracker. The invention further provides an automatic method of tracking Sun using the said solar tracking apparatus.

Probable Assignee: NIMBALKAR KEDAR

Earliest Publication Date: 20160916



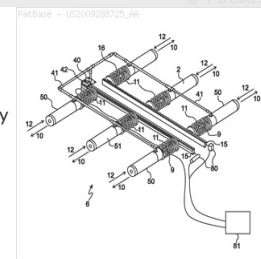
54) Family number: 44046386 (US2009288725A)

POSITION CONTROL APPARATUS AND METHODS

Abstract: Source: US2009288725A Particular embodiments of the inventive technology may be described as a position control apparatus that comprises a fluidic drive system configured to drive, with a single fluidic displacement, each of a plurality of positioners in a first relative direction; and a bias system that includes a plurality of biasers that bias the positioners in a direction that is opposite the first relative direction. In particular embodiments, and as but a few of the many possible design features, positioner actuators may be fluidically linked in parallel and with the fluid compressor, the positioner actuators may each include a piston; and a plurality of positioners may each be responsive to at least one of the pistons.

Probable Assignee: FLEXIBILITY ENGINEERING LLC

Earliest Publication Date: 20091126



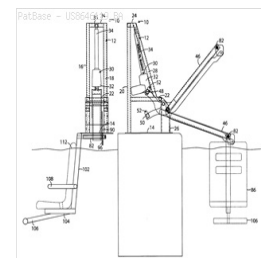
55) Family number: 55755891 (US8646119B)

POOL CHAIR LIFT AND ASSOCIATED METHOD OF USE

Abstract: Source: US8646119B A chair lift apparatus adapted to transport an individual into and out of a water pool, the chair lift apparatus that includes a frame, a chair, a lift arm, having a first end portion and a second end portion, the first end portion of the lift arm is rotatably attached to the frame and the second end portion of the lift arm is operatively attached to the chair, a linkage, and a linear actuator, having a first actuator portion and a second actuator portion located within a frame, the linear actuator is operable to move the linear actuator between a first actuator position and a second actuator position. There is a protective cover to provide protection from environmental damage and the space between the frame and the linear actuator does not constitute a pinch point when the chair is above the edge of the water pool.

Probable Assignee: SHERIDAN STEVEN W

Earliest Publication Date: 20140211



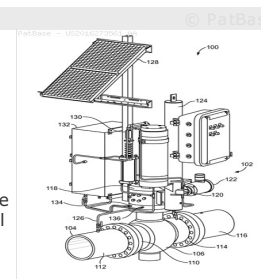
56) Family number: 63599692 (US2016273561A)

CONTROL FLUID POWER APPARATUS AND RELATED METHODS

Abstract: Source: US2016273561A Control fluid power apparatus and related methods are disclosed. An example control fluid power apparatus includes a first housing having a first piston defining a first chamber and a second chamber, where the first chamber receives a control fluid and the second chamber receives a process fluid from a process system. The first chamber is oriented above the second chamber when the control fluid power apparatus is coupled to a control valve assembly. A second housing has a second piston defining a third chamber and a fourth chamber, where the third chamber receives the control fluid and the second chamber receives the process fluid. The third chamber is oriented above the fourth chamber when the control fluid power apparatus is coupled to the control valve assembly.

Probable Assignee: EMERSON PROCESS MANAGEMENT VALVE AUTOMATION INC

Earliest Publication Date: 20160922



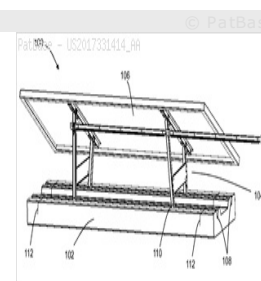
57) Family number: 67492863 (US2017331414A)

FEET OF SOLAR COLLECTOR SUPPORT STRUCTURES, JOINTS BETWEEN FEET OF SOLAR COLLECTOR SUPPORT STRUCTURES AND CONCRETE, AND METHODS OF FORMING THE SAME

Abstract: Source: US2017331414A A method for installing a solar collector can include slip-forming a concrete track including a groove; curing the concrete track; placing a foot of a support structure of a solar collector in the groove; and applying adhesive between the foot and groove. Curing the concrete track optionally can include maintaining wetness of the concrete track for a sufficient period of time after slip-forming the concrete track. The foot optionally can include at least one of an aperture and a tab, and the adhesive flows through the aperture or around the tab. A foot of a support structure of a solar collector also is provided. The foot can be configured to be inserted into a groove and comprising a back wall, a first side wall including a first side tab, a second side wall including a second side tab, a third side wall, a fourth side wall, and a bottom wall.

Probable Assignee: ALION ENERGY INC

Earliest Publication Date: 20171116



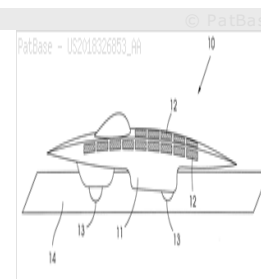
58) Family number: 60724255 (US2018326853A)

SOLAR TRACKING ELECTRIC VEHICLE

Abstract: Source: US2018326853A This invention relates to an electric vehicle and more particularly, but not exclusively, to a solar vehicle of which a chassis is selectively adjustable relative to wheels of the vehicle. The electric vehicle includes a chassis, a suspension arrangement for connecting the chassis to wheels of the vehicle, and a solar panel securable relative to the chassis. The vehicle is characterized in that an orientation of the chassis relative to a plane defined by the wheels of the vehicle can be selectively adjusted by adjusting the suspension arrangement, in order for the angular orientation of the solar panel also to be adjusted.

Probable Assignee: UNIV KWAZULU NATAL

Earliest Publication Date: 20170302



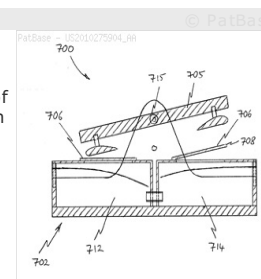
59) Family number: 47486711 (US2010275904A)

THERMAL-MECHANICAL POSITIONING FOR RADIATION TRACKING

Abstract: Source: US2010275904A The invention relates to systems and methods for controlling angular position of a pivotable platform relative to a radiation source. In one embodiment, an apparatus for controlling angular position of a pivotable platform relative to a radiation source includes a frame, a thermal actuation element coupled to the frame, a pivotable platform positioned between the radiation source and the thermal actuation element so as to at least partially block energy from the radiation source from impinging on the thermal actuation element, and apparatus for pivoting the pivotable platform in response to a thermally controlled deformation of the thermal actuation element.

Probable Assignee: SUNPOINT TECHNOLOGIES INC

Earliest Publication Date: 20101104



60) Family number: 43255950 (US2009127861A)

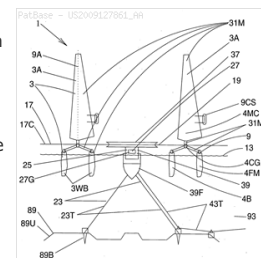
FLUID-DYNAMIC RENEWABLE ENERGY HARVESTING SYSTEM

PatBase - US2009127861A

Abstract: Source: US2009127861A The invention provides a fluid-dynamic renewable energy harvesting system which includes fluid-foil means for interfacing with a fluid current such as a water current or wind or both, and which includes energy harvesting means utilizing fluid current driven periodic motion of the fluid-foil means for capturing fluid-dynamic renewable energy and converting it into usable energy in a desired form such as electricity. The invention provides devices, methods and systems for harvesting renewable energy for small-scale, medium-scale and large-scale applications, to provide real and substantial benefits towards efficiently fulfilling energy needs while also more broadly serving humanity and our global environment. The various embodiments of the invention provide energy with zero consumption of fossil fuels and zero emissions of greenhouse gases, and some selectively sited embodiments can beneficially counter global warming induced ice melting.

Probable Assignee: RIC ENTPR

Earliest Publication Date: 20090521



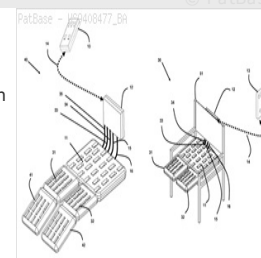
61) Family number: 63111231 (US9408477B)

PORTABLE PNEUMATIC SEATING DEVICE

Abstract: Source: US9408477B A seating device has a portable pneumatic seating platform and at least one pneumatic pad module supporting the ability to pressurize and depressurize at least one pneumatic pad module with the ability to be operated by electrical power.

Probable Assignee: MARLYS JAMES P

Earliest Publication Date: 20160809



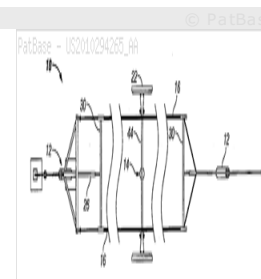
62) Family number: 47677332 (US2010294265A)

DUAL AXIS SUPPORT FOR HIGH WIND SOLAR PANELS

Abstract: Source: US2010294265A A solar panel mounting system and structure which provides dual axis tracking while only requiring a force to be applied about a single axis. The system can provide desirable results with both actively-powered and passively-powered drive mechanisms. Also provided is a solar panel mounting frame which permits a solar panel to be mounted without requiring additional frame components.

Probable Assignee: ZOMEWORKS

Earliest Publication Date: 20101125



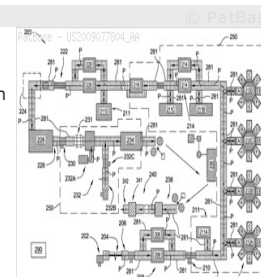
63) Family number: 42981399 (US2009077804A)

PRODUCTION LINE MODULE FOR FORMING MULTIPLE SIZED PHOTOVOLTAIC DEVICES

Abstract: Source: US2009077804A The present invention generally relates to a sectioning module positioned within an automated solar cell device fabrication system. The solar cell device fabrication system is adapted to receive a single large substrate and form multiple silicon thin film solar cell devices from the single large substrate.

Probable Assignee: APPLIED MATERIALS INC

Earliest Publication Date: 20090305



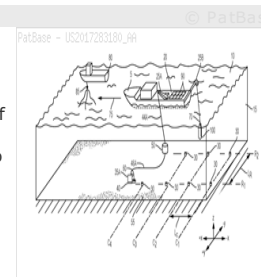
64) Family number: 67135846 (US2017283180A)

HELICAL CONVEYOR FOR UNDERWATER SEISMIC EXPLORATION

Abstract: Source: US2017283180A The present disclosure is directed to a helical conveyor for underwater seismic exploration. The system can include a case having a cylindrical portion. A cap is positioned adjacent to a first end of the case. A conveyor having a helix structure is provided within the case. The conveyor can receive an ocean bottom seismometer ("OBS") unit at a first end of the conveyor and transport the OBS unit via the helix structure to a second end of the conveyor to provide the OBS unit on the seabed to acquire the seismic data.

Probable Assignee: FAIRFIELD IND INC

Earliest Publication Date: 20171005



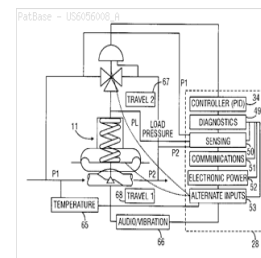
65) Family number: 30011447 (US6056008A)

INTELLIGENT PRESSURE REGULATOR

Abstract: Source: US6056008A An intelligent pressure regulator for maintaining a fluid in a process at a predetermined pressure includes an electronic controller which enhances regulator performance and provides self-diagnostics and communications capabilities. The electronic controller includes a pressure sensor which provides a signal indicating the pressure of the fluid being controlled, an adjusting pressure for adjusting the position of a throttling element; and a PID controller which receives the signal indicating the pressure of the fluid being controlled and applies the adjusting pressure to the actuator in response to the signal.

Probable Assignee: FISHER CONTROLS INT LLC

Earliest Publication Date: 19990401



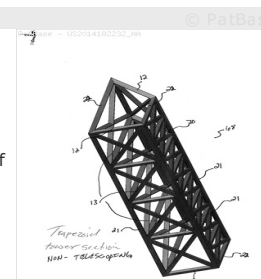
66) Family number: 52405915 (US2014182232A)

COMPOSITE OPEN/SPACED MATRIX COMPOSITE SUPPORT STRUCTURES AND METHODS OF MAKING AND USING THEREOF

Abstract: Source: US2014182232A A lattice support structure or tower comprising one or more open matrix composite strut members connecting a series of interlocking connectors to create a ridged support platform for telecommunications, surveillance, renewable energy, lighting and energy transmission applications. Embodiments of the invention are telescoping for ease of transport and erection. The erection and deployment can be achieved through means of automatic deployment or manual.

Probable Assignee: C6 IND

Earliest Publication Date: 20121122



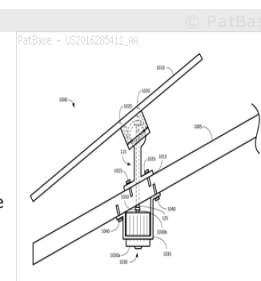
67) Family number: 63667075 (US2016285411A)

SOLAR TRACKING PANEL MOUNT

Abstract: Source: US2016285411A A rotating, pivoting mount for mounting a panel is disclosed. The mount can include a mounting block, a driveshaft, and a base. A socket in the mounting block can be mounted on a ball of the base to pivotally couple the panel to a structure. The ball can also include a cam profile, while the mounting block can include a complementary cam follower. As the mounting block rotates, therefore, the cam follower can follow a path set forth by the cam profile to tilt the mounting block about one axis as the mounting block rotates about a second axis. In this manner, the panel can be rotated and tilted-or moved about two axes-using a single motor. The use of a single motor can, in turn, reduce the cost and complexity of the system, while maintaining high efficiency for the panel (e.g., a solar panel) mounted thereon.

Probable Assignee: KIRK RUDY INC

Earliest Publication Date: 20160929



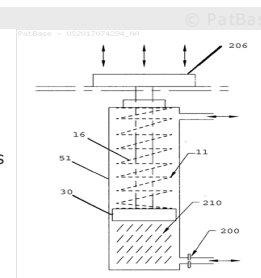
68) Family number: 65152814 (US2017074294A)

FLOW RESTRICTED POSITIONER CONTROL APPARATUS AND METHODS

Abstract: Source: US2017074294A Particular embodiments of the inventive technology disclosed herein relate to the use of a dynamic valve to reduce motion caused by impulse force applied to a positioned component. Typically, the inventive technology finds application in an internally pressurized positioning system. At times, use of the inventive technology may lead to cost savings by, e.g., allowing for the use of smaller diameter positioner actuators and/or a reduced internal pressure.

Probable Assignee: FLEXIBILITY ENGINEERING LLC

Earliest Publication Date: 20170316



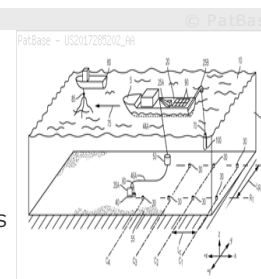
69) Family number: 67136456 (US2017285202A)

SKID STRUCTURE FOR UNDERWATER SEISMIC EXPLORATION

Abstract: Source: US2017285202A The present disclosure is directed to a skid structure for underwater seismic exploration. The system can include an underwater vehicle comprising a skid structure. A conveyor is provided in the skid structure. The conveyor includes a first end and a second end opposite the first end. A capture appliance is provided at the first end of the conveyor. The capture appliance includes an arm to close to hold a case storing one or more ocean bottom seismometer ("OBS") units, and to open to release the case. The capture appliance includes an alignment mechanism to align an opening of the case with the first end of the conveyor. A deployment appliance can be at the second end of the conveyor. The deployment appliance can place an OBS unit of the one or more OBS units onto the seabed to acquire seismic data from the seabed.

Probable Assignee: MAGSEIS FF LLC

Earliest Publication Date: 20171005



70) Family number: 73741424 (WO19059975A2)

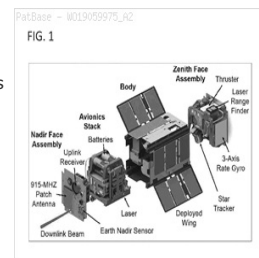
SHAPE MEMORY ALLOY (SMA) HINGE APPARATUS, AND SYSTEMS AND METHODS EMPLOYING SAME

PatBase - WO19059975A2

Abstract: A controllable shape memory alloy (SMA) hinge apparatus comprises multiple SMA elements to effect a first angle of rotation and a second angle of rotation between a first object and a second object. In one example, respective SMA elements are independently activated by Joule heating to rotate the first object and/or the second object. SMA elements undergo a three-dimensional transformation (e.g., bending or torsion), and a pair of elements may undergo antagonistic transformations so as to provide for a multiple-use bidirectional non-continuous rotary actuator. SMA elements may be trained to achieve different angles of rotations between the objects (e.g., zero degrees and 90 degrees). SMA elements may be nitinol, and may be formed as wires, rectangular sheets, or coils. In some examples, the first object may be a spacecraft (e.g., a satellite) and the second object may be a deployable structure (e.g., a robotic appendage, a deployable solar panel, a deployable aperture, a deployable mirror, a deployable radiator, and at least one actuator to steer an antenna dish).

Probable Assignee: MASSACHUSETTS INST TECHNOLOGY

Earliest Publication Date: 20190328



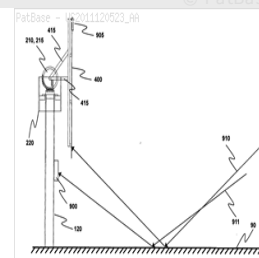
71) Family number: 48961327 (US2011120523A)

SOLAR PHOTOVOLTAIC SUPPORT AND TRACKING SYSTEM WITH VERTICAL ADJUSTMENT CAPABILITY

Abstract: Source: US2011120523A Installation of solar energy systems is made easier through the use of augur tubes. The base augur tube accommodates telescoping sections which enable these systems to exhibit a smaller footprint with enhanced power ratings. A tracking head is provided in which dual axis tracking is provided using a single drive mechanism. These features are employed either together or independently.

Probable Assignee: SILVER CHARLES

Earliest Publication Date: 20110526



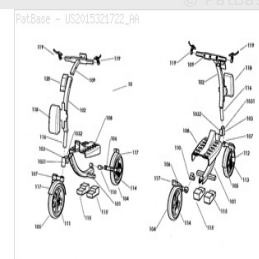
72) Family number: 56547883 (US2015321722A)

FOLDABLE MOTORIZED SCOOTER

Abstract: Source: US2015321722A The disclosure is directed to a foldable motorized scooter having at least one front wheel and at least one rear wheel, configured to operate between an extended rideable position where the front wheel and the rear wheel are aligned along a longitudinal axis, and a folded stowed position wherein the at least one front wheel and the at least one rear wheel are concentrically parallel to each other along a transverse axis, the foldable motorized scooter equipped with a rechargeable power source.

Probable Assignee: GREEN RIDE LTD

Earliest Publication Date: 20140530



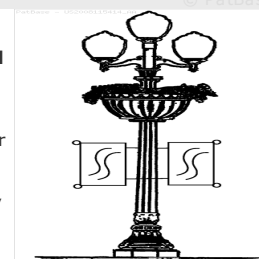
73) Family number: 41819582 (US2008115414A)

ADJUSTABLE HEIGHT PLANTER WITH AN OPTIONAL WATERFALL, AND/OR AN ADJUSTABLE IRRIGATION SYSTEM FOR CONTROLLABLY WATERING THE PLANTER AND SURROUNDING TERRAIN

Abstract: Source: US2008115414A A planter system includes an adjustable height and angular orientation planter and an optionally adjustable irrigation system for controllably supplying water to the planter and/or surrounding terrain. The planter is configured to controllably travel up and down a vertical support, such as a section of a planter pole or other suitable vertical support structure, from a highest to a lowest position using a pulley and winch, block and tackle, rotating shaft, continuous pulley driven belt, continuous sprocket driven chain, lead screw, ball screw, a ballast, hydraulics, pneumatics, spring or other lifting subsystem. The irrigation system may be configured to supply water to the planter and or to the surrounding terrain. The planter is carried along the pole, allowing it to be controllably rotated at any height along the travel.

Probable Assignee: HOGAN JAMES

Earliest Publication Date: 20080522



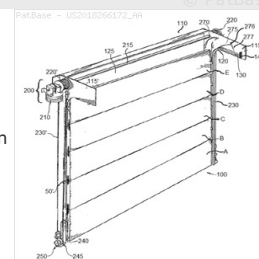
74) Family number: 71242221 (US2018266172A)

GARAGE DOOR SYSTEMS AND METHODS

Abstract: Source: US2018266172A Provided are door systems having a plurality of door panels and a frame, the door panels being movable between an extended position closing an opening in a building structure, and a folded retracted position. When in the extended position, the door panels interlock with each other forming a barrier to wind, dirt and insects. The frame is movably attached to the building structure and when the door panels are in the extended position, the frame moves and engages the door panels with a sealing member to provide an airtight seal of the opening in the building structure.

Probable Assignee: BIOFILM IP LLC

Earliest Publication Date: 20180920



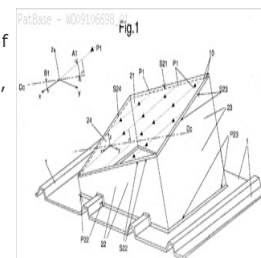
75) Family number: 43686782 (WO09106698A1)

COVERING DEVICE WITH PHOTOVOLTAIC PANEL

Abstract: The invention relates to a covering device with a photovoltaic panel to be installed on the roof or the terrace of a building, and for optimising an inclination of the solar panel relative to the horizontal or an orientation of the photovoltaic panel relative to the cardinal direction, while having a panel integrated in the building, particularly via a frame that comprises a central opening closed by the solar panel, wherein said frame (21, 22, 23, 24) is sized, relative to the roof inclination or orientation, so that the solar panel placed against the upper edge (S21, S22, S23, S24) has: an optimised inclination relative to the horizontal, which is close to the perpendicular to the sun rays, or an optimised orientation relative to the cardinal points, which is close to the south or the north depending on whether the building is located in the northern hemisphere or the southern hemisphere, respectively.

Probable Assignee: BE AND CO

Earliest Publication Date: 20090903



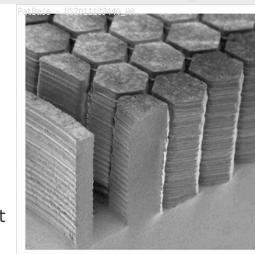
76) Family number: 44814730 (US2011189440A)

SYSTEMS, DEVICES, AND/OR METHODS FOR MANUFACTURING CASTINGS

Abstract: Source: US2011189440A Certain exemplary embodiments can provide a composition, system, machine, device, manufacture, circuit, and/or user interface adapted for, and/or a method and/or machine-readable medium comprising machine-implementable instructions for, activities that can comprise, after removing a cast device from a stack-lamination-derived mold, said cast device formed from a molding composition, applying a desired shape to said cast device to form a shaped cast device, said molding composition comprising: a ceramic composition comprising silica; an cycloaliphatic epoxy binder composition, said cycloaliphatic epoxy binder composition present in said molding composition in an amount up to 30 percent by weight of said molding composition; a silicone composition comprising a siloxane resin, said silicone composition present in said molding composition in an amount up to 30 percent by weight of said molding composition; and a solvent composition adapted to dissolve said cycloaliphatic epoxy binder composition and said silicone composition.

Probable Assignee: UNITED TECHNOLOGIES CORP

Earliest Publication Date: 20100401



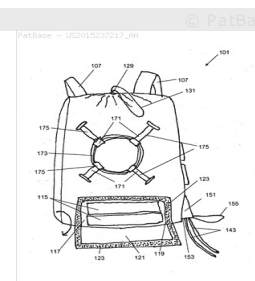
77) Family number: 54631803 (US2015237217A)

PORTABLE WIRELESS COMMUNICATIONS SYSTEMS

Abstract: Source: US2015237217A A mobile wireless communications system includes a container having an interior compartment for holding one or more portable wireless communication components. The container can be adapted in various ways to facilitate use of the wireless communication components without having to unpack the components from the container. The system can include a shroud adapted to protect one or more electrical connections associated with wires connecting components inside the container to external electrical devices. The system can include a moveable support for holding one or more of the wireless communication components in the container and rotating the communication equipment to an orientation that provides better access without removing the components from the container. The system can also include features that help manage various wires that may be used to connect wireless communication components inside the container to other devices.

Probable Assignee: TERRA FERMA INC

Earliest Publication Date: 20130829



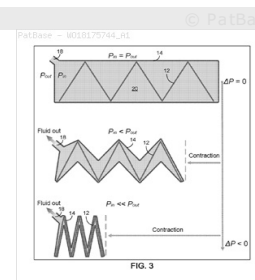
78) Family number: 71313645 (WO18175744A1)

PROGRAMMABLE MULTI-SCALE FLUIDIC ARTIFICIAL MUSCLES AND PISTONS

Abstract: An artificial muscle system includes a collapsible skeleton, a flexible skin, and a muscle actuation mechanism. The collapsible skeleton is contained inside a volume defined, at least in part, by the flexible skin. The flexible skin and the collapsible skeleton are configured for the flexible skin to provide a pulling force on the collapsible skeleton when a pressure difference exists between the inside of the sealed volume and a surrounding environment to change at least one of the dimensions and thus geometry of the collapsible skeleton. The muscle actuation mechanism includes at least one of the following to deploy or contract the collapsible skeleton: (a) a fluid displacing, releasing, or capturing mechanism configured to increase or decrease fluid pressure inside the sealed volume; and (b) a heating or cooling element configured to change the temperature of fluid in the sealed volume.

Probable Assignee: HARVARD COLLEGE

Earliest Publication Date: 20180927



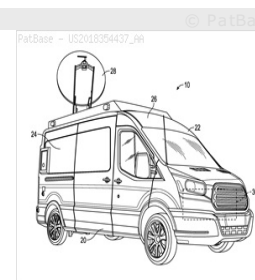
79) Family number: 70850266 (US2018354437A)

AUXILIARY POWER SYSTEM FOR A VEHICLE

Abstract: Source: US2018354437A A vehicle includes a chassis, an engine coupled to the chassis, a primary electrical system, and an auxiliary electrical system. The primary electrical system is configured to power one or more electrical loads associated with operation of the vehicle when the engine is running. The primary electrical system includes a primary alternator and a primary battery. The auxiliary electrical system includes an auxiliary alternator configured to generate electrical power, a battery system electrically coupled to the auxiliary alternator and configured to store at least a portion of the electrical power generated by the auxiliary alternator, and an inverter coupled to the battery system. The inverter is configured to at least one of (a) charge the battery system, (b) power a direct current load, and (c) power an alternating current load.

Probable Assignee: OSHKOSH CORP

Earliest Publication Date: 20180821



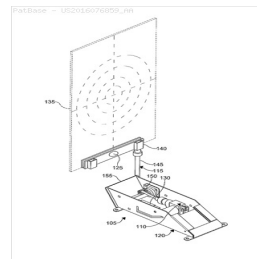
80) Family number: 61862260 (US2016076859A)

PORTABLE TARGET SHOOTING SYSTEM WITH SENSORS AND REMOTE CONTROL

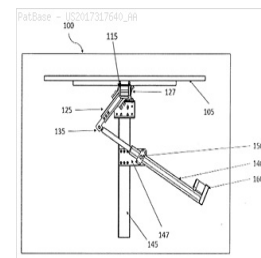
Abstract: Source: US2016076859A A target shooting system includes an actuator, one or more impact sensors, a controller, and can include a remote device. The actuator couples a target member to a base member and is configured to move the target member relative to the base member. The one or more impact sensors are coupled to the target member, where multiple impact sensors can be configured to identify a location of an impact on the target member and to provide a signal including the location when the target member receives the impact. The controller is communication with the actuator and the one or more impact sensors and is configured to cause the actuator to move the target member relative to the base member and to receive the signal from the impact sensor. The remote device can communicate with the controller and can receive the signal and the impact location from the controller.

Probable Assignee: APEX TARGET SYSTEMS LLC

Earliest Publication Date: 20160317



Earliest Publication Date: 20171102



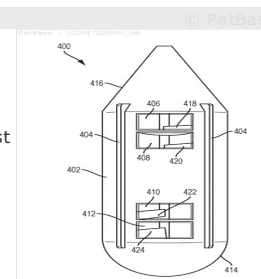
86) Family number: 67136454 (US2017285200A)

LOADING A HELICAL CONVEYOR FOR UNDERWATER SEISMIC EXPLORATION

Abstract: Source: US2017285200A The present disclosure is directed to loading a helical conveyor for underwater seismic exploration. The system includes a case and a first conveyor having a helix structure provided within the case to support one or more ocean bottom seismometer ("OBS") units. The case can include a first opening at a first end of the first conveyor and a second opening at a second end of the first conveyor. The system can include a base to receive at least a portion of the case. The system can include a second conveyor positioned external to the case that can move an OBS unit into the first opening at the first end of the first conveyor. The first conveyor can receive the OBS unit and direct the OBS unit towards the second opening at the second end of the first conveyor.

Probable Assignee: MAGSEIS FF LLC

Earliest Publication Date: 20171005



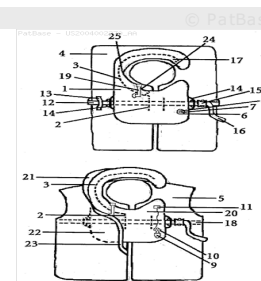
87) Family number: 29581587 (US2004002270A)

VARIABLE-DISPLACEMENT VARIABLE-BALLAST LIFE RAFT INFLATED AND MAINTAINED BY A MANUAL PNEUMATIC AND OR HYDRAULIC LEVER-AMPLIFIED TORQUE PUMP THROUGH A RANGE OF DEDICATED FITTMENTS

Abstract: Source: US2004002270A A variable volume raft containing adjustable ratio and amounts of air and or water. The buoyancy and ballast of the raft are routinely adjusted to accommodate additional occupants and changing weather conditions. A manual pump can be the primary or back up source for initial inflation. The torque pump twisted by hand or amplified by a lever arm generates air pressure for maintenance and repairing deflating lacerations at sea. The pumps collector gathers and pressurizes rain water for drinking in one chamber while pressurizing sea water as a stabilizing ballast in another chamber. A double hull or full floor chamber allows huge variations in buoyancy or ballast as dictated by changing needs for stability versus mobility. A compressed liquid or two-part foam confers puncture resistance to a portion of the raft. A thrown self-righting manual air horn, worn water-activated air horns and water activated transmitted signals, mark the site for rescuers.

Probable Assignee: COURTNEY WILLIAM L

Earliest Publication Date: 20031113



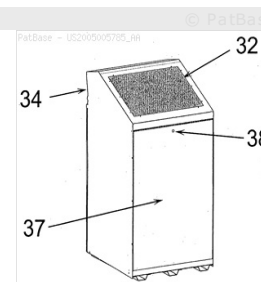
88) Family number: 31413314 (US2005005785A)

SOLAR POWERED COMPACTION APPARATUS

Abstract: Source: US2005005785A A trash compactor designed for public use is powered by a photovoltaic cell array. This allows the trash compactor to be placed in locations where no power is available, but with frequent human traffic. The compaction feature allows the unit to be emptied less often than a typical trash container. The trash compactor can include a storage system to store power for compaction cycles. A removable bin allows easy removal of the compacted trash. The removable bin can include multiple chambers for different trash types.

Probable Assignee: BIG BELLY SOLAR INC

Earliest Publication Date: 20041223



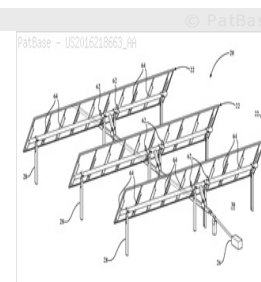
89) Family number: 58930889 (US2016218663A)

SOLAR PHOTOVOLTAIC SINGLE AXIS TRACKER

Abstract: Source: US2016218663A An improved solar panel assembly is provided. The assembly includes a plurality of sub-assemblies which are spaced from one another. Each sub-assembly has at least two torque tubes and a plurality of laterally spaced rails which are coupled with the torque tubes for supporting a plurality of solar panels or reflectors thereon. Rotation of the torque tubes about the lateral axis rotates the solar panels or the reflectors mounted on the rails. At least one torque arm is joined with and extends transversely away from one of the torque tubes of each sub-assembly. A driveshaft extends longitudinally between the sub-assemblies and is moveable in the longitudinal direction for rotating the solar panels or reflectors via the torque arms, the torque tubes and the rails. The torque tubes are generally cylindrical in shape and adjacent torque tubes of each sub-assembly are co-axially joined in an end-to-end relationship with one another.

Probable Assignee: MAGNA INT INC

Earliest Publication Date: 20150409



90) Family number: 42908422 (US2009035121A)

FLUID FLOW MODULATION AND MEASUREMENT

Earliest Publication Date: 20090131