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SOLAR
FOTOVOLTÁICA

IV Trimestre
2019



- **A kind of photovoltaic solar panel cleaning device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|-------------------------------------|---------------------------|
| CN209462336 | China | Shanghai Hao Intelligent Technology | 2019-04-12 |

Resumen:

The utility model provides a kind of photovoltaic solar panel cleaning device, it is adapted to the production and application of solar panels cleaning technology field, photovoltaic solar panel cleaning device includes, cleaning case, cleaning case includes two pieces of clean plates that its inner wall left and right ends is hinged on by hinge, and the length of two pieces of clean plates is the half of cleaning case length, the width of two pieces of clean plates and the width of cleaning case are equal, the utility model has the beneficial effects that: passing through setting L- type slide bar, electronic slide unit, side lever and brush board, the phenomenon that being effectively reduced secondary pollution, pass through setting water tank simultaneously, water inlet pipe, water pump, outlet pipe and drinking-water pipe, water source secondary use is achieved the purpose that, effectively save water source, improve the practicability of this kind of photovoltaic solar panel cleaning device, solves existing photovoltaic solar panel The problem of cleaning device practicability is low and wastes water source.

- **A kind of photovoltaic DC field is with can automatic cleaning solar panel assembly.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|-------------------------------|---------------------------|
| CN209472591 | China | China Three Gorges University | 2019-03-04 |

Resumen:



A kind of photovoltaic DC field is with can automatic cleaning solar panel assembly, the guide rail of photovoltaic panel two sides is respectively arranged at including being parallel to each other, water flushing pipe and mobile rod piece are equipped with perpendicular to guide rail and between two guide rails, water flushing pipe both ends are fixedly connected with two guide rails respectively and water flushing pipe both ends are connected to water inlet pipe respectively, mobile rod piece is equipped with cleaning brush, and mobile rod piece both ends are slideable connect with guide rail ; It further include water collection agencies mounting bracket, bracket is equipped at least two collector pipe, and collector pipe lower end is connected to the other end of water inlet pipe ; One of connector in the three-port structure of collector pipe upper end is equipped with water collecting funnel, is equipped with the first piston that can be moved up and down in second connector. Artificial loading water or natural rain can be collected the purpose of the utility model is to provide a kind of, the cleaning of union cleaning brush, rain-out, drying function in one photovoltaic DC field with can cleaning solar panel assembly automatically.

- **Photovoltaic solar generator unit structure.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|----------------------|--------------------|
| CN110445464 | China | Panzhuhua University | 2019-08-22 |

Resumen:

The invention discloses a kind of photovoltaic solar generator unit structures, belong to solar energy power generating equipment design and manufacturing technology field. It is stable to provide a kind of operating temperature, the high photovoltaic solar generator unit structure of power generation effect. The photovoltaic solar generator unit structure, including photovoltaic solar panel, the photovoltaic solar generator



unit structure further includes cooling system and cooling system, temperature in the photovoltaic solar panel course of work keeps stabilizing by the cooling system, and the work calories for the photovoltaic solar panel that cooling system is taken out of are distributed by the cooling system.

- **Photovoltaic solar panel with buckle installation mechanism.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|----------------------------------|---------------------------|
| CN110611477 | China | Beijing Sunlectric Technological | 2019-09-01 |

Resumen:

The invention discloses a photovoltaic solar panel with a buckle mounting mechanism, which comprises two lower clamping plates and two upper clamping plates, wherein supporting legs are fixedly mounted at the bottom ends of the two lower clamping plates, fixed seats are fixedly mounted at the bottom ends of the two supporting legs, the upper clamping plates are fixedly arranged at the tops of the two lower clamping plates, first fixed plates are fixedly mounted at one sides of the two lower clamping plates, and the middle parts of the top ends of the two first fixed plates are respectively and fixedly connected with the bottom ends of the two first connecting plates through first connecting springs; the positions of the lower clamping plate and the upper clamping plate are limited through the cooperation of the first connecting spring and the first clamping plate which are arranged and the cooperation of the second connecting spring and the second clamping plate, the lower clamping plate and the upper clamping plate are both arranged in a barb shape, the stability of connection of the first clamping plate and the second clamping plate is improved, the traditional bolt fixing mode is replaced, and the installation and the disassembly are convenient.



- **A kind of photovoltaic solar panel maintenance facility.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|-------------------------------|---------------------------|
| CN209577500 | China | Henan Yaoye Power Engineering | 2019-02-01 |

Resumen:

The utility model discloses a kind of photovoltaic solar panel maintenance facilities, including cabinet, mounting plate, driving motor, fixing bearing, battery, rubber slab, clean hatch, fixing sucking disk, transmission shaft, cleaning assemblies, linking arm, vertical plate, second sliding block and shifting roller, the top side of the cabinet is equipped with vertical plate by bolt, the side of the vertical plate is provided with linking arm, cleaning assemblies is provided on the outside of the linking arm, the cleaning assemblies includes equipment box, dust catcher, connect hose, partition is installed, cylinder, piston rod, push plate, sweep- up pipe, dust removal port, connecting rod, cleaning brush and the first sliding block, the inside of the equipment box is equipped with installation partition by bolt, the top of the installation partition is equipped with cylinder by bolt, the photovoltaic solar panel maintenance facility, structure is simple, it can be to photovoltaic solar panel Cleaning dedusting is carried out, cleaning effect is good, can effectively improve the service life of photovoltaic solar panel.

- **Vehicle-mounted photovoltaic solar panel.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|----------------------------------|---------------------------|
| CN110600571 | China | Beijing Sunlectric Technological | 2019-08-22 |



Resumen:

The invention discloses a vehicle-mounted photovoltaic solar cell panel, which comprises a cell panel body, wherein a detachable supporting device is arranged on the back surface of the cell panel body, a protective sleeve is wrapped outside the cell panel body and fixedly connected with a first suction disc through a connecting rope, a plurality of magnetic stripe grooves which are arranged at equal intervals are formed in the front surface and the back surface of the protective sleeve, and magnetic stripes A and magnetic stripes B are embedded in the magnetic stripe grooves respectively, so that the vehicle-mounted photovoltaic solar cell panel has the beneficial effects that: the vehicle-mounted photovoltaic solar cell panel is provided with the protective sleeve, the cell panel body is protected, the cell panel body is stabilized through the first sucking disc, and the cell panel body is easy to work; the battery panel is provided with a magnetic strip groove for accommodating a magnetic strip A and a magnetic strip B, so that the battery panel body is further stabilized; the supporting device has the advantages that the supporting device has the supporting and stabilizing effects on the battery panel body, the heat dissipation of the battery panel body is facilitated, the battery panel body is easy to generate electricity, the whole structure is simple, the disassembly and the assembly are easy, and the carrying is convenient.

- **Removable modular police merchandise and the security equipment.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|----------------------------|---------------------------|
| CN110331872 | China | Shenzhen Chitwang Industry | 2019-07-09 |

Resumen:



The present invention discloses a removable modular police merchandise and the safeguard is provided, and the steel frame structure constructed entirely from a cabinet, a plurality of merchandise and the security room in a house shape of a structure, between the two merchandise and the security room through connector for splicing, connection is made between the two merchandise and the security room through a staircase, for personal palou; merchandise and the security room through the top of the bracket is connected to the floor, the floor of the intermediate is an open structure; merchandise and the security room is provided with a bottom of the base plate, on which a photovoltaic solar panel disposed on the top; the present invention relates to the field of public security watch device technology. The removable modular police merchandise and the safeguard equipment, a variety of equipment into a single, facilitates the use of public security hours personnel, merchandise and the efficiency is improved, police emergency set are placed within a protective casing will, police emergency appliance to have been good memory, police emergency tool is required for use, police emergency equipment needs to be able to access through a face recognition, those skilled in the police emergency tool is used for taking non-police is avoided.

- **A kind of photovoltaic solar board mount being easily installed.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|--|---------------------------|
| CN209267512U | China | Suzhou Lianchuang Wisdom Energy Technology | 2019-03-08 |

Resumen:

The utility model discloses a kind of photovoltaic solar board mounts being easily installed, including back-shaped seat, the right end of back-shaped seat is



connected with handle, the front and rear sides wall of back-shaped seat is connected with mounting plate, lock screw with being bolted on mounting plate, the inner cavity left side wall of back- shaped seat is equipped with hinge hinge, the movable end of hinge hinge is connected with fixed frame, the upper surface of fixed frame offers embeded slot, fixed frame upper surface is surrounded by Damping rotation shaft, fixture block is connected at the top of Damping rotation shaft, the bottom of fixed frame is hinged with the first lantern ring, the top right side of back-shaped seat is connected with small rack, small rack upper end is rotatably connected to stop sleeve, strut is plugged in stop sleeve, the left end of strut is hinged with hook, the top left side of back-shaped seat is hinged with the second lantern ring. The structure design of the utility model is reasonable, easy to carry, and installation is simple, and photovoltaic solar panel can be made to reach good daylighting effect.

- **A kind of water remediation makes stream device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|--|---------------------------|
| CN209567825 | China | Shanghai Foruo Environmental Protection Technology | 2019-01-25 |

Resumen:

The utility model discloses a kind of water remediations to make stream device, including support frame and low-noise fan, upper end is equipped with photovoltaic solar panel at left and right sides of support frame as described above, the lower end of the photovoltaic solar panel is connected with battery, the low-noise fan is located at one end of battery, and one end of low-noise fan is equipped with connecting tube,



the bottom end of the connecting tube is provided with air chamber, the left and right ends outer wall of the air chamber is connected with Venturi nozzle, and the air chamber bottom end is equipped with immersible pump. The water remediation makes stream device and is provided with rock-steady structure, since integral type floating drum and the cylinder block of connection have cavity inside it, so that device has better buoyancy, based on equipment support is provided, while stabilizing sleeve body is located at the center of device with certain weight, and then stabilizing equipment itself, prevent equipment from rocking, and in equipment lower end by the effect of clump weight, so that device both ends are symmetrically stabilized, prevent equipment from floating up and down seriously.

- **Solar heating and hot water supply device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|---|--------------------|
| CN209744513 | China | College of Technology & Enigneering Lut | 2019-04-24 |

Resumen:

The utility model discloses a solar heating and heat supply water installation relates to heating heat supply water installation technical field, for solving current solar heating heat supply water installation and using at night to store in the water tank by heat retaining hot water, the general not high problem of temperature. The utility model discloses a water tank support, including water tank support, heat medium pipe, heat preservation, water tank shell, electric heating pipe, preceding bracing, and back bracing, the below of water tank support is provided with the support fixed plate, water tank shell is installed to water tank support's top, and water tank shell and water tank support welded connection, water tank shell's top is provided with the gas vent, the delivery pipe is installed to one side of water tank shell, the heat



medium pipe is installed to the top of delivery pipe, be provided with the heat preservation on water tank shell's the inner wall, water tank shell's internally mounted has electric heating pipe, one side of water tank support is provided with preceding bracing, and preceding bracing is provided with two, water tank support's opposite side.

- **A kind of photovoltaic solar panel transport protection device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|-------------------------------|---------------------------|
| CN209582276 | China | Henan Yaoye Power Engineering | 2019-02-01 |

Resumen:

The utility model discloses a kind of photovoltaic solar panel transport protection devices, including strap, connection component, compress component and card slot, the strap includes left clamp and right clamping plate, and the left clamp is connect by connection component with right clamping plate, it is equidistant at the top of the left clamp and the right clamping plate to be provided with multiple card slots, and the card slot respectively corresponds and vertically passes to left clamp and right clamping plate bottom, the card slot two sides are symmetrically arranged with each one group and compress component ; The connection component includes connecting rod, circular trough, disk, jack and first back-moving spring, the right clamping plate side both ends are symmetrically connected with each connecting rod, left clamp side both ends symmetrically offer each jack, and the jack is equipped with a circle circular trough along hole wall ; The utility model is conducive to be clamped photovoltaic solar panel surrounding fixation, while playing damping effect during transportation convenient for photovoltaic solar panel, improves protective action.



- **A kind of outdoor installation mounting rack of photovoltaic solar panel.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|-------------------------------|---------------------------|
| CN209593340 | China | Henan Yaoye Power Engineering | 2019-02-01 |

Resumen:

The utility model discloses a kind of outdoor installation mounting racks of photovoltaic solar panel, including top plate and back box, the rear end of the top plate is fixedly connected with swivel base one, the rear end of the back box is fixedly connected with swivel base two, it is rotatably connected between the swivel base one and swivel base two, the intracavity front end of the back box and rear end are fixedly connected to the first rolling bearing units, the axis rotation of two the first rolling bearing units opposite faces is connected with the first screw rod, the front end of first screw rod is pierced by the front end of back box and is fixedly connected with the first knob, the surface of first screw rod is threaded with the first swivel nut, support rod is rotatably connected between the bottom of its front end on the top of first swivel nut and top plate. The utility model has the advantage that structure is simple, easy to use, solves traditional mounting rack due to uncontrollable characteristic, causes solar panels immutable problem of its angle after installation.

- **Easy-to-mounted photovoltaic solar panel.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|--------------------|---------------------------|
| CN209517013 | China | He Xiaozhong | 2019-01-24 |

Resumen:



The present utility model relates to the technical field of a solar panel, which discloses a method for facilitating the installation of a photovoltaic solar panel, comprising a solar panel body, a solar panel is provided with a uniform distribution of the four outer walls of the body a fixed block, four fixed pieces adjacent to one side of the solar panel body is provided with a slot each, the four slot to which the solar panel body engaging the inner wall, the solar panel body is provided with four evenly distribute the bottom of the base. This facilitates installation of a photovoltaic solar panel, an adjusting tube is disposed through the bottom, a palm grip friction sleeve and steer the tube, the screw in the screw hole vertically move 1st possible, thereby adjusting the height of the bottom base fixed block length, and the bulge is provided through the rotation block, a solar panel is adjusted to a certain angle to the horizontal plane of the body at the time, the rotating block to rotate in the bulge, tightening the set screws, which allows the solar panel body holding the angle inconvenience, facilitating the user to use.

- **Shockproof hammer for power transmission line.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|---------------------------------|---------------------------|
| CN209823366 | China | State Grid Corporation of China | 2019-06-27 |

Resumen:

The utility model discloses a power transmission line stockbridge damper, which comprises a hammer head, a connecting piece and a buckle, wherein the connecting piece is fixed on a cable through the buckle, a device platform is also arranged at the upper end of the connecting piece, a bracket and an equipment installation box are arranged on the device platform, and the bracket is connected with a photovoltaic solar panel and the device platform; the equipment mounting box is internally



provided with an energy storage module, a positioning module, a displacement sensor and a signal processing module, and the signal processing module is also internally provided with a wireless signal output antenna; the buckle includes two semi-circular fasteners, fixed axle and fastening bolt, fastens two semi-circular fasteners and its cable of parcel through the fastening bolt. The utility model discloses can effectually avoid the stockbridge damper to produce excessive rocking and then take place not hard up or remove because of wind-force easily, the state of effectual monitoring stockbridge damper self, easy access.

- **The fixed bracket of photovoltaic solar panel.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|--|---------------------------|
| CN209710000 | China | Changzhou Jiuzhou Lianheng Building Materia | 2019-04-19 |

Resumen:

The utility model relates to a kind of fixed brackets of photovoltaic solar panel, have the photovoltaic solar panel of several matrix arrangements positioned by the bracket ; The fixation bracket includes fixed plate, cover board and pressing plate ; The section of the fixed plate is U-shaped, and is mutually agreed with the UV shape corrugation on roof ; The fixed plate is longitudinally equidistantly layed in the raised position of corrugation ; It is positioned between adjacent two pieces of photovoltaic solar panels of corrugation direction setting by cover board ; Two side bottoms of the cover board are equipped with positioning strip, are fixedly connected between cover board and fixed plate by fastener. Positioning is blocked by the card slot of exhaustion plate in the two sides up and down of the photovoltaic solar panel of the utility model, and the left and right sides passes through cover board and fixed plate and pressing plate cooperation positioning ; It is directed to the matrix arrangement



that roofing carries out photovoltaic solar panel, large area arrangement can be carried out according to demand.

- **A kind of energy-saving ecological carport.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|--------------------------------|--------------------|
| CN209704118 | China | Anyang Institute of Technology | 2019-03-26 |

Resumen:

The utility model discloses a kind of energy-saving ecological carport, including bicycle shed load-bearing pillar, bicycle shed load-bearing pillar lower end fixes on the ground, roof frame is fixed in upper end, the bicycle shed top cover of roof frame fixed funnel shape, photovoltaic solar panel is fixed on bicycle shed top cover, bicycle shed top cover connects rainwater collection header, the flower pond that roof frame is suspended in midair by connecting rod, it is fixed in Hua Chi to pour water pipe 7, water pump one is fixed in rainwater collection header, water pipe is poured in the connection of water pump one, one water tank of the gap connection of rainwater collection header setting, water pump two is provided in water tank, the water outlet of water pump two connects daily water consumption pipe, the gap two being arranged on water tank connects urban sewer system, photovoltaic solar panel is water pump one, water pump two provides electric energy, water pump one, water pump two is connect by route with control system, to control water pump one, water pump two is in work State or off working state have adapted to Metroplises life requirement, propose the bicycle shed of green, environmental protection and energy saving.

- **A kind of solar energy Starry sky lamp.**



| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|--|--------------------|
| CN209484456 | China | Zhongshan Jingbao Optoelectronic Technology | 2019-04-08 |

Resumen:

The utility model relates to a kind of solar energy Starry sky lamps; including fixed bracket; the solar energy Starry sky lamp can be fixed on wall or fixed position by it; assembly container; accumulator cell assembly is fixed with built in it; the accumulator cell assembly is also electrically connected with control panel; the control panel is equipped with LED light; the LED light is equipped with light source control plate protective cover; fixed solar panels bracket; it is used for fixed support photovoltaic solar panel, and the photovoltaic solar panel is electrically connected with the accumulator cell assembly, and the fixed solar panels bracket is connect with the assembly container ; The photovoltaic solar panel stores after the solar energy being collected into is converted into electric energy and the accumulator cell assembly, and the accumulator cell assembly provides electric energy for the control panel, to control the LED light. For the utility model by being converted into being stored in accumulator cell assembly after electric energy using the solar energy for being collected into photovoltaic solar panel, accumulator cell assembly provides electric energy for control panel, to control LED light, meets environmentally protective theory.

- **A kind of solar energy artificial aquatic weed equipment promoted for water quality.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|-------------|--------------------|
| CN209668900 | China | | |



| | | | |
|--|--|--|------------|
| | | Zhejiang Haiyi Environmental Science Institute | 2019-03-22 |
|--|--|--|------------|

Resumen:

The utility model discloses a kind of solar energy artificial aquatic weed equipment promoted for water quality, including swimming in the frame on the water surface, the frame includes the identical cell of more than two sizes, clean unit is equipped in each cell, the clean unit includes ecological floating island, photovoltaic solar panel is equipped with above ecological floating island, the electric air pump driven by photovoltaic solar panel is equipped at the back side of photovoltaic solar panel, protective shell is equipped in the lower section of ecological floating island, the exchanging water hole of two column or more is provided on protective shell, the air inlet pipe of connection electric air pump is equipped in protective shell, carbon fiber artificial aquatic weed is equipped in air inlet pipe, the lower end of the air inlet pipe is communicated with aeration head, the aeration head is located at the lower part of protective shell inner cavity. The utility model is passing through the multiple cells of setting, and clean unit is arranged apart, and maintenance is facilitated to replace, and the quantity in water for microorganism, raising clean-up effect can be improved by setting aerator and carbon fiber artificial aquatic weed.

- **A kind of water body restoration device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|--|--------------------|
| CN209567876 | China | Shanghai Foruo Environmental Protection Technology | 2019-01-24 |

Resumen:



The utility model discloses a kind of water body restoration devices, belong to water body purification apparatus technical field. It includes floating drum, photovoltaic bracket, photovoltaic solar panel, water process cylinder, lower cover, slow-release water treatment micro-organism, battery, activation of microorganism conveying device, microbial activity agent, delivery pipe. Whole device is swum in into the water surface by floating drum, photovoltaic solar panel charges the battery, battery is powered to activation of microorganism conveying device, activation of microorganism conveying device extracts microbial activity agent and is slowly delivered in water treatment cartridges body by delivery pipe, bioactivator can continuous activation microorganism, contaminated water body enters in water treatment cartridges body from aperture, after the processing of slow-release water treatment micro-organism, with the effect for reducing COD and ammonia nitrogen, external power supply is not needed, carries out water remediation for a long time ; The lower cover of water process cylinder can be opened, and internal slow-release water treatment micro-organism is convenient for changing.

- **Power transmission line icing on-line monitoring device based on image recognition.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|----------------------------------|--------------------|
| CN110608674 | China | Anhui Jiuren Electric Technology | 2019-06-13 |

Resumen:

The invention discloses an image recognition-based on-line monitoring device for ice coating of a power transmission line, belonging to the technical field of cable ice coating monitoring and comprising an image acquisition camera, a field device terminal and a photovoltaic solar panel; the image acquisition camera is arranged



on the line tower and is used for shooting pictures of the power transmission line in real time; the on-site equipment end comprises an inverter, a storage battery, a monitoring terminal and a networking server, wherein the monitoring terminal is used for receiving an icing image signal shot by the image acquisition camera, calculating the icing thickness of the power transmission line through the image signal, and comprises a core calculation module, a power supply module, a data storage module, a weather monitoring module and an image processing module. The real pictures of the power transmission line are collected in real time through the image collecting camera, the icing thickness of the power transmission line is calculated through the internal core calculating module by the monitoring terminal, and then the monitoring result is sent to the background monitoring center, so that monitoring personnel can conveniently master the icing condition of the power transmission line in real time.

- **A kind of Internet of Things agricultural quantitative watering device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|---|---------------------------|
| CN209609385 | China | Guangxi Normal University for Nationalities | 2019-03-11 |

Resumen:

The utility model discloses a kind of Internet of Things agricultural quantitative watering devices, including quantitative watering device main body, supporting mechanism, irrigation mechanism and sprinkler, the top insertion of quantitative watering device main body is connected with supporting mechanism, the top insertion of supporting mechanism is connected with support frame, the top insertion of support frame is connected with photovoltaic solar panel, the bottom side insertion of quantitative watering device main body is connected with irrigation mechanism,



irrigation mechanism can achieve the effect that carry out quantitative watering to plant, irrigation mechanism helps just to pour the plant inside device, and then increase the humidity in device, to accelerate the speed of growth of plant, supporting mechanism passes through support frame, photovoltaic solar panel, fixed plate, signal transceiver, control cabinet, retractable support column and sliding rail are operated together, to achieve the effect that support is fixed to device, support machine Structure facilitates fixed support device, to improve the stability of device, future has extensive development prospect.

- **Photovoltaic electronic smart anti-inclined takeout box.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|---------------------|---------------------------|
| CN209560336 | China | Chengdu Polytechnic | 2019-05-13 |

Resumen:

The present utility model discloses a photovoltaic electronic intelligence anti-tilting takeout box, the present utility model is reasonable in structure design, has high practicability, in operation, the inner tank and outer tank dual layer insulation will produce better results, photovoltaic solar panels to be received power generation, battery storage capacity, through the regulator to the device power supply, an energy-saving and environment-friendly, the tilt sensor is transmitted to the signal level of the carry-out tank tilt MUC, MUC controls the stepper motor drive, a stepper motor drives a transmission pulse signal to control the stepping motor, the stepping motor through the drive track to drive the movable wheels move up and down the shaft is pulled, thereby controlling the vertical movement of the inner box is carried out in various directions, such that the inner case is always kept horizontal and vertical, the frangible or easily spilled article take-out box is more fail-safe, under the action of the disinfection module and a temperature control module to, sterilization



and disinfection can be conveniently executed temperature control, a richer functionality.

- **A kind of floatation type maritime radar survey wind mobile platform wind-light storage direct current micro-grid system.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|------------------|--------------------|
| CN110492467 | China | Jimei University | 2019-09-06 |

Resumen:

A kind of floatation type maritime radar survey wind mobile platform wind-light storage direct current micro-grid system, belong to Naval Architecture and Ocean Engineering neighborhood and field of new energy applications, using annular DC bus structure, including electricity generation system, four part of measuring device, monitoring device and electric system ventilating drainage equipment, platform is laid out using three-decker, from top to bottom it is respectively first, second and third layer of platform, is overlaying structure. First layer places wind-driven generator, photovoltaic battery panel ; The second layer places the power inverter of three wind-power electricity generation, photovoltaic power generation, energy-storage battery units, while placing measuring device and monitoring device and direct current ring busbars row ; Third layer places battery group. Three layers of hierarchical layout that the present invention uses, the open design of first layer realize sea wind sea can make full use of, the closed design of second and third layer and accordingly by Drainage Design guarantee measuring device, monitoring device and battery group from sea wind sea water intrusion.

- **Novel multifunctional lawn lamp.**



| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|---|--------------------|
| CN209558225 | China | Xinchang County Zhijin Textile Product | 2019-03-05 |

Resumen:

The present utility model discloses a novel multi-functional and a lamp, a novel multi-function and a lamp, comprising a lamp vessel, 1st chamber, the water tank, and a 2nd cabinet chamber, which is connected at both sides of the tank water, a water pump is mounted at the top of the tank on both sides, and the pump are mounted to one side of the guiding pipe 1st, 2nd-guide are mounted on the other side of the water pump, and the 2nd conductor pipe away from the water pump in the water tank extending to an end of a bottom end, are mounted to one end of a 1st conduit tube away from the sprinkler water pump, and the sprinkler heads are mounted to a tip of. The present utility model is mounted and a harvesting device through the water tank, while harvesting device is internally provided with a filter layer, is filtered and high resistance to rain collected, into the water tank for storing water conduits through the rain water, can be used to dry the time of the lawn irrigation at, efficient use of rainwater resources, conforming to the idea of sustainable development.

- **Solar moisture measuring system and measuring fertilizer irrigation fertilizing recommendation system.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|-------------------------------------|--------------------|
| CN209525346 | China | Shandong Agricultural University | 2019-03-04 |

Resumen:



The present utility model discloses a moisture measuring system and measuring fertilizer irrigation fertilizing recommendation system according to solar energy, belongs to the technical field of intelligent equipment, measuring fertilizer moisture measuring system includes a cloud server that solar, and the user terminal the data collection station, the data acquisition station and a plurality of data collector comprises a solar device, the cloud server, a data acquisition device and the user terminal through a network communication connection between; data collector includes a guard assembly, support assembly, the soil moisture sensor and crop canopy analyzer. The irrigation system comprises an recommended-application, moisture measuring system measuring fertilizer solar modules and data transmission. An example of the present utility model technology scheme, and the moisture of the soil fertility can comprehensively and accurately detected, and gives a user the recommended amount of irrigation and the fertilization, agricultural growers provides great convenience to, is particularly suited for small-scale agriculture growers use.

- **Convenient assembly of photovoltaic device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|--|---------------------------|
| CN209517014 | China | Hangzhou Guodian Electric Power Technology Development | 2019-01-24 |

Resumen:

The present utility model relates to a photovoltaic device of convenient assembly, which includes a photovoltaic frame, a plurality of solar panels, solar panels are



disposed at corresponding photovoltaic support receiving channel, the wall plates for supporting the solar panel support stand fixed block groove; displacement of the linear groove is provided on a side wall disposed along receiving channel drive plate, a drive plate is disposed on a plug rod, for interpolating half part of the plug members are formed on the photovoltaic support, with the plug slots are provided through vertical plug slots photovoltaic holder communicating with the chute, the slope of the linear displacement drives the plug rod is provided with the chute by the drive member. The present utility model has the solar panel installation work easy, to enhance the efficiency in the assembly.

- **Solar energy panel frame without terminal box configuration.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|--|--------------------|
| CN209462329 | China | East China Institute of Technologyjinjiang Nachuangxin Environmental Technology | 2019-05-07 |

Resumen:

The utility model relates to a kind of solar energy panel frame without terminal box configuration, including moulding main body, which is equipped with the U-shaped accommodation groove for accommodating solar panels edge ; The slot bottom of accommodation groove is configured with two photovoltaic Special-purpose connecting lines, and the incoming end of two photovoltaic Special-purpose connecting lines is powered with corresponding solar panels power output positive and negative electrode and connects ; The end that picks out of photovoltaic Special-purpose connecting line extends to outside through accommodation groove slot bottom. The frame clamps setting by the way that photovoltaic Special- purpose



connecting line is directly accessed accommodation groove and carries out bending, so that when external drawing photovoltaic Special-purpose connecting line, its incoming end is not allowed to be displaced, and then guarantee the stability that connecting line is connect with positive and negative motor, without configuring terminal box, so that the structure of the solar energy panel frame is simple, production cost is low ; And the thickness of the solar energy panel frame is small, occupies little space, conveying efficiency is high, transportation cost is low.

- **A kind of environment and ecological monitoring technical equipment and application method.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|---|---------------------------|
| CN110296735 | China | Nanjing Sijing Water Resources Technology | 2019-05-14 |

Resumen:

The invention discloses a kind of environment and ecological monitoring technical equipment and application method, including environmental parameters monitoring modular, power supply module, microprocessor, memory, enquiry module and alarm module, the power supply module is electrical connected with environmental parameters monitoring modular, microprocessor, memory and enquiry module, the environmental parameters monitoring modular is electrical connected with memory and microprocessor, the microprocessor is electrical connected with alarm module, and the memory is electrical connected with enquiry module ; Including step used below: step 1: equipment is completed the installation exercise in specific environment and ecological monitoring region by personnel, power collection unit is such as mounted on the suitable region of illumination condition by bracket, complete power storage unit power collection, and the various sensor in environmental parameters



monitoring modular is mounted on the relatively good region of monitoring condition, and then guarantee that various sensor can complete more accurate environmental parameters measurement.

- **Multifunctional crawler-type grazing cart.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|--------------------|---------------------------|
| CN209879335 | China | Gao Mingzhou | 2019-05-08 |

Resumen:

The utility model relates to a multi-functional crawler-type grazing car. The remote control device comprises a walking end used for walking on a grassland and a remote control end used for controlling the walking end to work, wherein the walking end comprises a mounting frame, a walking module fixed below the mounting frame, a camera module fixed on the mounting frame and used for shooting and monitoring the environment, an audio module with the functions of recording and playing music, a power module used for providing power, an acquisition module used for acquiring environmental information, a wireless module with the functions of receiving and sending wireless information, a storage module used for storing audio files and a central control module. Utilize camera module and collection module control environment to utilize wireless module to transmit environmental information for remote control end, the walking module of remote operation crawler-type walks on the grassland, and simultaneously, the different audio file of audio module broadcast is used for driving away the livestock, realizes long-range grazing, does not need the herdsman to follow the meadow on, very big reduction the cost of labor.



- **Wind-solar power generation MPPT control method and system based on radial basis function neural network.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|-------------------------------|---------------------------|
| CN110571853 | China | Wuhan Institute Of Technology | 2019-09-05 |

Resumen:

The invention relates to a wind-solar power generation MPPT control method and a system based on a radial basis function neural network, wherein the wind-solar complementary power generation system comprises the following components: photovoltaic power generation subsystem and wind power generation system and direct current bus, photovoltaic power generation subsystem includes: the photovoltaic power generation system comprises a photovoltaic power generation module, a first current sensor, a first voltage sensor, a photovoltaic Boost circuit, a photovoltaic PWM control module and a first MPPT control module; the wind power generation subsystem includes: the wind power generation system comprises a wind driven generator, a second current sensor, a second voltage sensor, a wind power Boost circuit, a wind power PWM control module and a second MPPT control module; the technical scheme of the invention not only can realize the rapid tracking of the maximum power point of the output current of the photovoltaic power generation electronic system and the wind power generation electronic system in the wind-solar hybrid power generation system, but also reduces the current oscillation in the maximum power point tracking process, and improves the stability and the tracking efficiency of the maximum power point tracking process of the wind-solar hybrid power generation system.



- **Temperature sensing tape.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|-----------------------|---------------------------|
| WO2019234704 | Italia | Tenet Con Unico Socio | 2018-06-08 |

Resumen:

A temperature sensing tape structured to be arranged resting on a surface, comprising a support layer, two electric wires, which are arranged in the support layer, a plurality of electric resistor components which are arranged in series along an electric wire at pre-set distances from one another, a plurality of thermally actuated electric devices, each of which is connected between the wires at a respective electric resistor component, and is adapted to be actuated based on the temperature of the portion of layer of the tape which houses the electric device to cause a variation in electric resistance indicative of the position of the electric device along the temperature sensing tape.

- **Warning sign is used in municipal works construction.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|--|---------------------------|
| CN209760081 | China | Hangzhou Yuhang Hongchuang Property | 2019-02-02 |

Resumen:

The utility model relates to the technical field of municipal construction equipment, in particular to a warning board for municipal engineering construction; the to-be-solved



technical problem of the utility model is that present warning sign is not good at night. In order to solve the technical problem, the utility model provides a warning sign is used in municipal works construction, including the box, telescoping device fixedly connected with fly leaf is passed through to the bottom of box inner wall, and one side of telescoping device is provided with one-way air flow device, and the top of fly leaf is provided with electronic display device, and the top of fly leaf is provided with solar power unit, and the telescoping device is including welding the gas tank in box inner wall bottom, and the top welding of gas tank has four cylinders. This warning sign is used in municipal works construction waits at any time and can make the clear that people seen when light is not good, and makes people just can notice the warning sign in the distance to make people prepare in advance, avoid people to react untimely and lead to the traffic accident, improved car owner's life safety.

- **Multilayer road bridge three-dimensional traffic structure.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|-------------|--------------------|
| CN110541333 | China | Kang Qiao | 2018-05-29 |

Resumen:

The invention relates to a multilayer road and bridge three-dimensional traffic structure which comprises at least two layers of traffic roads, wherein a plurality of elevator well-shaped hollow bearing piers are arranged between the traffic roads, intelligent elevators for bearing pedestrians and/or vehicles to ascend and descend are arranged inside the piers, and one or any combination of a temporary parking area, a safe deceleration strip area, a deceleration mark, a deceleration strip, a parking space, a charging device, a sidewalk, a non-motor lane and an overpass is arranged between the adjacent piers. According to the invention, the intelligent



elevator is arranged in the elevator shaft-shaped pier, so that the shaft-shaped hollow pier can lift and carry pedestrians and vehicles up and down while bearing the load, the space is saved, the structure is ingenious, the elevator shaft-shaped pier is multipurpose, the traditional viaduct is replaced to pass up and down through ramps, and the upper space of the existing road pavement is fully utilized to construct a multilayer three- dimensional traffic structure.

- **A kind of monitoring of full coverage type slope of highway and early warning system.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|---------------------|--------------------|
| CN110533886 | China | Nanchang University | 2019-09-27 |

Resumen:

The invention patent uses the thought of grid division, and monitored side slope is divided into 10m × 10m void grid, is specifically adjusted accordingly by actual conditions, to realize all standing monitoring and warning. The invention includes: information acquisition unit, information collection unit, power supply unit and analysis decision unit. Character matrix is imported into analysis module, after analyzing information, alarm module alarms to those grids in displacement threshold value, and the specific location of ARCGIS meeting real-time display danger grid cell, so that convenient manually targetedly handled dangerous slopes point in time.

- **Solar water heating system.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|-------------|--------------------|
| | China | | |



| | | | |
|--------------|--|------------------------------------|------------|
| WO2019215639 | | Wisesol Solar Water Heating System | 2018-05-08 |
|--------------|--|------------------------------------|------------|

Resumen:

Systems and methods for a thermosyphonic water heating system for a storage tank. A DC heat pump receives power from a DC power source and heats water via a heat exchanger using a thermosyphonic piping system. A passive back-flushing having a cold water inlet pipe connected to the hot water return pipe draws cold water into the storage tank through the heat exchanger. A vertical array of temperature sensors distributed throughout the storage tank monitor temperature of stored water at multiple heights and a communication unit communicates monitored data to an external control device.

- **Security monitoring system based on a Beidou Navigation Satellite.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|--|--------------------|
| CN110361075 | China | Hunan Lianzhi Bridge & Tunnel Technology | 2019-08-16 |

Resumen:

The present invention relates to the field of monitoring technology, and particularly relates to a compass navigation satellite based on the safety monitoring system, includes a dam pile, the level detection mechanism and Beidou monitoring means, pile surface is provided with an annular groove dam, fixed sleeve is provided with an annular groove surface of the sleeve, the sleeve side is provided inside the tub, tub surface is provided with a plurality of screw holes. The present invention in a dam of the detection kit is mounted on the dam pile through novel water level, the float and



the counterweight in the detection kit is provided, when the water level rises the float will be lifted up, thus moving the swing arm of the drum is connected to the swing, the drum is removed in the second cylinder can be directly observed after sensing plate position, it is possible to read related data, as well as the number of lines is wound on a rotating shaft connecting lines can be observed, the height of any variations which tick marks were observed, as a whole improves the precision of detecting change in water level is higher, while a degenerate Beidou Navigation System, remote monitoring can be achieved, higher practicability.

- **Outdoor solar energy lamp post.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|-------------|----------------|--|--------------------|
| CN209511851 | China | Zhongshan Ourlight Optoelectronic Technology | 2019-01-11 |

Resumen:

The present utility model discloses an outdoor solar post lamp, comprising a solar photovoltaic module, an electrical energy storage device, a light source assembly, and a glass cover attached to the base, a solar photovoltaic assembly and the mounting base are respectively arranged at upper and lower ends of the glass cover, a light source assembly disposed in the glass cover, an electric energy storage module to be positioned between the light source assembly and a luminescent solar photovoltaic module; electrical energy storage device comprises a storage battery pack, the battery compartment is provided with a battery mounting groove bottom of the tank, and a battery charging battery mounting groove being provided with a bump battery cathode dome, a lower end portion is provided with a battery slot of the battery mounting groove bottom cover. When the electrical energy storage component after



prolonged use of the storage reduction in efficiency, without the need for disassembling the entire lamp post to solar energy, it is possible to change the electrical energy storage unit, thereby improving the efficiency and the convenience of the maintenance operation of the lamp post solar energy.

- **Keyboard dust-proof storage device.**

| Publicación | País de origen | Solicitante | Fecha de prioridad |
|--------------------|-----------------------|---------------------------|---------------------------|
| CN209486624 | China | Weifang Vocatonal College | 2019-03-22 |

Resumen:

The utility model discloses a kind of keyboard dust-proof storage devices, one end of the box body bottom interior wall connection damping spring of keyboard dust-proof storage device, the other end of damping spring is connected with lower protective pad, the quadrangle of lower protective pad upper surface is vertically provided with damping telescopic mast, and protective pad is provided at the top of four damping telescopic masts, keyboard is placed between protective pad and lower protective pad, and keyboard is located at four damping telescopic masts and surrounds in space ; Two pieces of dustcloths are stitched in the opening of box body, zipper connects between two pieces of dustcloths.By being provided with upper protective pad and lower protective pad, keyboard can be protected not collided with, and upper protective pad can effective protection keyboard, avoid key from wearing, guarantee the safety of keyboard.

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