

Search history

Search 1: SFT=(sprinkler and nozzle and angle and drop) (Results 570)
Search 2: SFT=(sprinkler and nozzle 3w conic) (Results 2)
Search 3: SFT=(sprinkler and nozzle 2w conic) (Results 1)
Search 4: SFT=(sprinkler and nozzle and conic) (Results 23)
Search 5: SFT=(sprinkler and nozzle and trunk*) (Results 206)
Search 6: SFT=(sprinkler and nozzle and trunk* and angle) (Results 68)

1) Family number: 32087430 (US2005156066A)

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IRRIGATION UNIT INCLUDING A POWER GENERATOR

Abstract: Source: US2005156066A An irrigation unit (20) for irrigating an area (12) with a fluid (19) from a fluid source (18) includes a housing (200), a **nozzle** (220), an electronic component (221), and a power generator (230). The **nozzle** (220) is directly or indirectly secured to the housing (200) and the **nozzle** (220) is in fluid communication with the fluid source (18) so that fluid (19) from the fluid source (18) is transferred to the **nozzle** (220). The electronic component (221) is directly or indirectly secured to the housing (200). The power generator (230) generates electrical energy that is transferred to the electronic component (221). The power generator (230) directly transfers at least a portion of the electrical energy to the electronic component (221) of the irrigation unit (20). The electronic component (221) can be a power storage unit (222) for storing electrical energy for use by the irrigation unit (20).

Probable Assignee: IVANS NORMAN

Earliest Publication Date: 20050721

2) Family number: 55352636 (US2014137472A)

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CONTROLLED ENVIRONMENT AND METHOD

Abstract: Source: US2014137472A An illustrative embodiment of an irrigation system may include a carriage that may move along a predetermined path in a reciprocal manner. The carriage may support one or more exit ports that may be fed nutrient supply by a pressurized delivery arrangement. One or more plant stands may be configured and arranged to straddle the carriage as it moves along the predetermined path. The one or more plant stands may form a chamber into which plant roots may extend, and into which the one or more exit ports may discharge their nutrient supply. The one or more plant stands may include side panels and a cap to reduce infiltration of light and contaminants and to enhance the plant root/nutrient supply interface and absorption rates. The carriage and/or the plant stand(s) may include friction reducing elements that facilitate transverse movement. The carriage and/or the plant stand(s) may be supported by framework.

Probable Assignee: LIVING GREENS FARM INC

Earliest Publication Date: 20131212

3) Family number: 33545180 (US2007033866A)

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LIFT APPARATUS FOR BASE-MOUNTED PLANT

Abstract: Source: US2007033866A An lift apparatus may include a holder and a lift mechanism. A holder may function to couple with a plant held at least partially in an opening of the base element. The base element and the plant may form a portion of a composite tree. The base element may be configured to couple to a surface. The lift mechanism may be coupled to the holder. The lift mechanism may function to move at least a portion of the holder to lift the plant out of the opening. Portions of the living plants may form branches of the composite tree.

Probable Assignee: WATER RIDE CONCEPTS INC

Earliest Publication Date: 20061026

4) Family number: 43650567 (US2009211605A)

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SYSTEM AND APPARATUS FOR AUTOMATIC BUILT-IN VEHICLE WASHING AND OTHER OPERATIONS

Abstract: Source: US2009211605A A self-contained built-in automatic vehicle washing system is constructed from a water supply, a delivery system (e.g., manifold and tubular lines), and spray **nozzles**. The washing system is pressurized at a reservoir or at the manifold. The **nozzles** are strategically positioned to effective coverage for the application of cleansers, water, wax, and/or heat for washing the vehicle. A rotating bar slides out from under the vehicle to provide wash **nozzles** mounted to the bar access to the body exterior of the car. The rotating bar and mounted wash **nozzles** may also be used in undercarriage cleansing of the vehicle, and the **nozzles** are turned on and off via valves and a controller in a sequence for washing the vehicle.

Probable Assignee: AHMAD NADEEM

Earliest Publication Date: 20090827

5) Family number: 5183922 (US5158231A)

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MINI-**SPRINKLER** STAKE ASSEMBLY AND MINI-**SPRINKLER** UNIT AND DEFLECTOR THEREFORE

Abstract: Source: US5158231A A mini-**sprinkler** stake assembly including an elongated ground penetrating stake having an adapter for permitting easy and reliable mounting and replacement of mini-**sprinkler** units. A new and improved mini-**sprinkler** unit having a novel tree deflector is also disclosed, the mini-**sprinkler** unit having a separable **nozzle** element and dual pattern deflector element, one deflector surface of which includes a recessed for producing a generally V-shaped spray pattern for effectively and efficiently watering the root zone area of a tree.

Probable Assignee: RAIN BIRD SPRINKLER MFG

Earliest Publication Date: 19921027

6) Family number: 49958652 (US2011284663A)

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WATER COSERVING ADJUSTABLE **SPRINKLER** SYSTEM

Abstract: Source: US2011284663A An adjustable **sprinkler** system distributes water from a garden hose through a feed housing to a pair of pivotally attached arms. There is a **sprinkler** unit attached near the end of each arm. Each **sprinkler** unit has an interchangeable spray head attached that is specific to the desired watering pattern. By pivoting the arms away from one another, the **sprinkler** system is placed on either side of the base of the shrub or tree to be watered. This adjustable **sprinkler** system accommodates newly planted and existing small to large and short to tall trees and shrubs, provides a multitude of spray patterns at varying water volumes, and minimizes water waste.

Probable Assignee: NATTERER MARK R

Earliest Publication Date: 20111124

7) Family number: 24049715 (US4015366A)

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HIGHLY AUTOMATED AGRICULTURAL PRODUCTION SYSTEM

Abstract: Source: US4015366A The present invention provides a highly automated agricultural production system which comprises, as essential components: 1. A sensing subsystem comprising direct and indirect sensing means in an agricultural production area. The direct sensing means are generally ground or plant mounted. The indirect sensing means are remote from the area being sensed. The direct and indirect sensing means are adapted to jointly generate data on all important parameters in the homogeneous agricultural production area; 2. A data transmitting subsystem for forwarding data generated by the direct and indirect sensing means to computing means and for transmitting instructions from the computing means via interfacing means (controllers) to various devices (field effectors) in the agricultural area to perform various functions; 3. A computing subsystem linked by way of said data transmitting subsystem to said indirect and direct sensing means in a pattern of many feedback loops. The computing means is programmed to enable correlation of data received from the indirect and direct sensing means and to generate appropriate instructions to accomplish a substantive number of functions required for the operation of the automated agricultural production system of the present invention as will be later described in detail, including, but not limited to, the control of the following subsystems. 4. A fluid delivery subsystem which provides: Means for delivering water, chemicals in liquid or gaseous form, air, and the like to various parts of the agricultural production area; and Means for providing power to various peripheral devices which utilize the power of moving liquid and/or gases-for example, a water powered (hydromotor) platform. 5. A field operations subsystem which, in a highly preferred embodiment, comprises means to harvest agricultural products, convey the agricultural products, grade the agricultural products, store the agricultural products, and pack the agricultural products. In addition to the above means which are essentially concerned with presenting the agricultural products in a form amenable for marketing, additionally means are provided for plant care, e.g., pruning, thinning and the like. A field operations subsystem which accomplishes the functions of fruit harvesting, fruit conveying, fruit grading and fruit storage which, in a most preferred embodiment of the present invention, accomplishes the above functions utilizing fluid received from the fluid delivery subsystem of the present invention. It is also highly preferred that such fluid powered means be utilized in the agricultural system of the present invention for tree care, e.g., pruning of trees, thinning of trees and the like. The field operations can be accomplished, if desired, utilizing a vehicle which is powered by fluid, typically water, derived from the fluid delivery subsystem of the present invention by means of a water-to-mechanical torque converter (hereafter often called a hydromotor platform).

Probable Assignee: ADVANCED DECISION HANDLING INC

Earliest Publication Date: 19770405

8) Family number: 44814730 (US2011189440A)

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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: MIKRO SYSTEMS INC

Earliest Publication Date: 20100401

9) Family number: 52824920 (US2013020409A)

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ATTACHABLE **SPRINKLER** DEFLECTOR

Abstract: Source: US2013020409A Disclosed is a rapidly deployable guard for rotary, stationary and pop-up type **sprinklers**, wherein a guard having an upstanding deflector surface connects around the **sprinkler** riser using a pair of deformable arms and a connector therebetween. The deflector blocks spray from the **sprinkler** in a given direction, while the attachment arms provide a readily deployable connection means around the riser of an existing **sprinkler**. The connection means comprises a removable zip tie fastener that extends through apertures in the attachment arms, or is alternately a zip tie fastener attached to the distal ends thereof. In an alternate embodiment, the deflector shield includes an extension member having an overhang portion for blocking spray from multiple orientations around the circumference of the **sprinkler** spray pattern.

Probable Assignee: BARTLETT SIMON

Earliest Publication Date: 20130124

10) Family number: 47334018 (US2010263275A)

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ROBOTIC WATERING UNIT

Abstract: Source: US2010263275A The different illustrative embodiments provide a method and system for watering plants. A map of an area is received and a determination is made using a processing unit as to whether the area needs water. If the area needs water, current constraints are identified and a determination is made using the processing system as to whether the current constraints allow for watering. If the current constraints allow for watering, a watering solution application plan is generated using the processing system, and the watering solution application plan is executed using a mobile utility vehicle.

Probable Assignee: DEERE AND CO

Earliest Publication Date: 20101021

11) Family number: 49714234 (US2011247264A)

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TRELLIS SYSTEM FOR FOR IRRIGATION AND FROST PREVENTION

Abstract: Source: US2011247264A A trellis mounted system for irrigation and frost prevention is described. The irrigation system comprises a trellis, a first conduit coupled to the trellis, and a second conduit coupled to the trellis. The first conduit delivers a heated water stream to a **nozzle** that provides a heated water spray to an area surrounding the trellis. The second conduit provides drip irrigation to a ground area surrounding the trellis. The heated water supplied by the trellis mounted irrigation system prevents the development of damaging frost on agricultural plants.

Probable Assignee: EDGE TECHNOLOGY

Earliest Publication Date: 20111013

12) Family number: 52323542 (US2012279731A)

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RAIN MAKER WILDFIRE PROTECTION AND CONTAINMENT SYSTEM

Abstract: Source: US2012279731A An apparatus, system and method for fire suppression and containment is provided in accordance with one embodiment of the invention. A conduit with a plurality of **nozzle** connections, in various configurations to create specific fire suppressant discharge patterns. Each conduit can be operated individually or connected to another conduit by a predetermined length of hose forming a contiguous system, traversing large areas of land. The invention and components form a multipurpose fire suppression apparatus. The system can be operated remotely or manually. An alternative embodiment can be installed in residential, commercial and industrial applications. Each system can be custom designed based upon environmental engineering requirements and system application-with regard to conduit diameters, material composition, shape, length and **nozzle** design without leaving the core design. The system components can also incorporate sensors, monitoring devices, robotics (i.e. RM all terrain vehicle) satellite imaging and wireless technology.

Probable Assignee: HOWARD SR JOHN WAYNE

Earliest Publication Date: 20121108

13) Family number: 837510 (US3402890A)

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SEQUENCING **SPRINKLER**

Abstract: Source: US3402890A (Claim 1) 1. In a **sprinkler** system having timed on and off inter- vals, a programmable pressure responsive sequencing valve comprising a body mountable on a line of said system, **nozzle** means mounted on said body, pressure responsive sensing means in said body and on said mounting thereof exposed to water pressure in said line on each on interval of said system, valve means normally closing and operable by said sensing means for opening said **nozzle** means, a plurality of opening and non-opening sensed elements selectively assemblable in any of a plurality of series on said body, and means for causing said sensing means sequentially to sense the sensed elements of the selected series and only on sensing of an opening element operate on said valve means and automatically open said **nozzle** means during an on interval of said system.

Probable Assignee: R AND H MOLDING INC

Earliest Publication Date: 19680924

14) Family number: 3006475 (US4834186A)

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SPRINKLER HEAD MOUNTING SYSTEM

Abstract: Source: US4834186A A system for mounting a branch pipeline and **sprinkler** head assembly of a fire extinguisher **sprinkler** system to structural elements above the ceiling of a building in a manner which allows the **sprinkler** head to be vertically adjusted relative to the plane of the ceiling. The mounting system includes an anchor bracket which attaches the horizontal pipe of the branch pipeline to a structural element and a clamp which is attached to a structural element and is selectively operable for gripping and releasing the vertical pipe of the branch pipeline to allow vertical adjustment of the **sprinkler** head and hold it immobile subsequent to the vertical adjustment. The clamp is of special configuration which allows it to be operated in response to an operating force which is applied thereto in a direction parallel to the vertical pipe through a **sprinkler** head clearance hole formed in the ceiling.

Probable Assignee: F AND C IND INC

15) Family number: 11094605 (US5626194A)

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FIRE FIGHTING SYSTEM

Abstract: Source: US5626194A A Fire Fighting System includes a vehicle with one or more mounted motors, a fire shield system, and an emergency fire retardant discharge system. The motors are equipped with cutting elements including cutting teeth, paddle teeth, and severe duty fire whips. The fire shield system may include a series of flame and heat retardant coverings placed on all exposed parts of the system to prevent damage from exposure to extreme heat. The emergency fire retardant discharge system distributes chemical fire retardant in the event the fire comes too close to the system. In operation, the vehicle operator positions the system at the edge of a fire line and energizes the motors causing the cutting elements and whips to begin rotating. Once rotating at full speed, the vehicle is advanced along the fire line with the cutting elements cutting and slashing the burning vegetation. Once cut, the burning vegetation is thrown aside by the severe-duty fire whips that rotate to throw the debris back towards the fire. Thus, as the Fire Fighting System advances along the fire line, a fire break is created which is devoid of any combustible material.

Probable Assignee: FAV INC**Earliest Publication Date:** 19970506**16) Family number: 11606920** (US5913367A)

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AIRCRAFT PENETRATOR

Abstract: Source: US5913367A An aircraft penetrating **nozzle** comprises a penetrator which has a harden tip. The penetrator functions to open a passageway in a barrier or skin of an aircraft to permit the aircraft penetrating **nozzle** to pass thereinto. The penetrator is securely attached to a frustum which comprises a plurality of **nozzles** which disperse fire extinguishing fluids interior to the aircraft perpendicular to the longitudinal axis of the aircraft penetrating **nozzle** and forward of the perpendicular. The frustum is securely attached to a shank which comprises at least one rotating **nozzle** which functions to disperse fire extinguishing fluid, in fog form, sideways to the aircraft penetrating **nozzle** which is fore and aft in the aircraft. The aircraft penetrating **nozzle** is attached to a boom and a fire extinguishing fluid source.

Probable Assignee: HAMPTON LAWRENCE M**Earliest Publication Date:** 19990622**17) Family number: 2943040** (US4821965A)

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SELF-LEVELING DROPPED WHEEL-LINE IRRIGATION APPARATUS

Abstract: Source: US4821965A Wheel line irrigation apparatus provided with a plurality of rotary, impact-type, high volume **sprinklers**, mounted on **trunk** lines each of which are self leveling. The pipeline is axially affixed to laterally spaced wheels; the pipeline including a main line, having a substantially horizontal longitudinal axis, and a plurality of dropped line portions defining cradle-like structures. A series of **trunk** lines, in fluid communication with the pipeline and rotatably connected to the pipeline by support bearings, are nested within the cradles. Each of the **trunk** lines is provided with a **sprinkler**, rotatable about a vertical axis. The **sprinklers** are maintained in the upright position, even when the pipeline is on uneven ground, as the **trunk** lines pivot within the cradles because of the low center of gravity. The inlet port of each **nozzle** is located at or below the longitudinal axis of the main line to hold oscillations to a minimum. Each of the dropped pipeline sections may be provided with a downwardly depending pedestal, with foot for engaging the ground, once the pipeline is filled with irrigation water, to support the pipeline and to dissipate the energy of the impact arm to ground to prevent oscillation of the pipeline.

Probable Assignee: SMITH ANN J**Earliest Publication Date:** 19890418**18) Family number: 45170425** (US2010139871A)

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DRY POND WATER EVAPORATION SYSTEM AND METHOD OF EVAPORATING WATER

Abstract: Source: US2010139871A Dry pond water evaporation systems and methods are used to evaporate large quantities of water from industrial waste water sources, such as water produced by oil and gas wells. Dry pond systems include a water evaporation system that emits waste water into the air as a fine spray or mist to promote evaporation. Water that falls to the ground and any initially dissolved solids are captured in a water capture depression. Water and solids are transferred from the water capture depression to a water collection pool. Water from the water collection pool is recirculated through the water evaporation system to further concentrate the total dissolved solids (TDS). When the TDS are sufficiently concentrated, they may be harvested, such as by evaporating off the water and recovering salts or minerals as a solid.

Probable Assignee: REFORMWATER LLC**Earliest Publication Date:** 20100610**19) Family number: 28854908** (WO03066230A1)

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SPRINKLER ARRANGEMENT

Abstract: The invention relates to a **sprinkler** arrangement comprising an especially compact **sprinkler** for quadrilateral surfaces. Said **sprinkler** is especially advantageous for watering small surfaces and/or can be arranged in a shaft.

Probable Assignee: GARDENA KRESS AND KASTNER GMBH**Earliest Publication Date:** 20030814**20) Family number: 57568863** (GB2531407A)

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THERMAL EFFICIENCY ENHANCING UNIT

Abstract: Source: GB2531407A A thermal efficiency enhancing unit is provided. The thermal efficiency enhancing unit includes: acceleration means 3 for accelerating matter within the unit to speeds required by the user; a pressure-controlled environment 3s13 which can freely allow the acceleration of the matter 3s14,5s1,8s1; and a matter decelerator 6 such that the matter will be decelerated. The matter decelerator 6 causes the temperature 7q1,8q1 of the accelerated matter to differ substantially from the temperature 5q1,9q1 of the decelerated matter. This enables a heat-engine 10,12 power-plant, or power-station operating between the two said temperatures to produce a work-output or electricity more efficiently than is presently possible.

Probable Assignee: QUAW M DIMOIR

Earliest Publication Date: 20160420

21) Family number: 30161462 (US2002018009A)

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SYSTEM AND METHOD OF PREVENTING AIRCRAFT WING DAMAGE

Abstract: Source: US2002018009A An apparatus and method for tracking aircraft wingtip position during taxi operations to prevent collisions with nearby obstructions. A patterned illumination source is attached proximal the wingtips to project a readily discernable target pattern in the direction of taxi travel. At least a portion of the target pattern is reflected off of any obstructions that lie in the straight-line direction of travel, such that the pilot can maneuver to avoid striking the obstruction. By way of example, the patterned illumination source comprises a laser module positioned with the navigation and/or strobe light of the aircraft that is configured to project a circular pattern in front of the wingtip. The device may be retrofitted to existing aircraft without additional wiring with the control of activation being selectable via power cycling of existing aircraft lighting controls.

Probable Assignee: RASTAR CORP

Earliest Publication Date: 20020214

22) Family number: 10294348 (US4768715A)

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VEHICLE MOUNTABLE LIQUID SPRAY SYSTEM

Abstract: Source: US4768715A A spray system and method is described for producing a spray pattern that may be used to spray around stationary objects such as tree **trunks** in a single pass from one side of the object. The system includes an elongated sectioned boom having provisions for carrying a spray head at an outward end at a relatively constant height from the ground surface. **Nozzles** at the outward boom end are selectively adjustable into a desired spary configuration whereby the pattern produced projects both inward and outward of the boom end. The pattern may be adjusted so that it will extend equally to opposite sides of an object spaced outwardly of the boom end. Provisions are also made for adjusting the spray pattern and for elevationally adjusting the effective height of the **nozzles** from the ground surface. Other provisions include a break away mechanism that enables pivotal motion of the outward boom end in response to engagement with an object such as a tree **trunk** as the system is moved forwardly.

Probable Assignee: PERRAULT CHARLES J

Earliest Publication Date: 19880906

23) Family number: 29442940 (US2003128812A)

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DEVICES, METHODS, AND SYSTEMS INVOLVING CAST COLLIMATORS

Abstract: Source: US2003128812A Certain exemplary embodiments of the present invention comprise a cast collimator descended from a stack lamination mold, said mold comprising a plurality of metallic foils. Certain embodiments of the present invention comprise a method comprising filling a mold having a stacked plurality of micro-machined metallic foil layers with a first casting material to form a first cast product; demolding the first cast product from the mold; filling the first cast product with a second casting material to form a cast collimator; and demolding the cast collimator from the first cast product. It is emphasized that this abstract is provided to comply with the rules requiring an abstract that will allow a searcher or other reader to quickly ascertain the subject matter of the technical disclosure. This abstract is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims. 37 CFR 1.72(b).

Probable Assignee: MIKRO SYSTEMS INC

Earliest Publication Date: 20021212

24) Family number: 12989101 (US5613802A)

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APPARATUS FOR DEPLOYING A WORK OBJECT

Abstract: Source: US5613802A A method for deploying a work object, connected to a control system by an elongated, substantially flexible conduit, relative to a target, the method including the steps of substantially burying the work object in the earth in a predetermined position relative to the target with the conduit extending upwardly from the work object to the surface of the earth; extending the conduit to the control system substantially across the surface of the earth; and covering the portion of the conduit extending across the surface of the earth to conceal its presence. An apparatus for deploying a work object in an operational position, the apparatus having a housing adapted to be positioned beneath the operational position; a member mounted on the housing and adapted to mount the work object for movement to and from the operational position; and a system connected to the housing for moving the work object to and from the operational position.

Probable Assignee: JAIN IRRIGATION INC

Earliest Publication Date: 19970325

25) Family number: 652236 (FR2009662A)

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Abstract: Source: FR2009662A (Claim 1) 1 - 0 REVENDICATI NS

CLAIMS 10 - Device for watering the tree **trunks** characterized by the fact that it is an arm of a certain length, articulated at one end of a chs-sis and free to rotate in a horizontal plane around an axis, the other end thereof can abut against the **trunk** water, a hub acting as the engine when the arm comes up against the **trunk**, for I1 a transmission such as rod, control the angular movement up or down a **nozzle** for spraying spray pressure of a liquid pesticide, the **sprinkler nozzle** moves with time also in a horizontal direction with the arm.

Probable Assignee: CASOTTI ETTORE

Earliest Publication Date: 19700206

26) Family number: 17272153 (ES1018409Y)

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"ASPERSOR"

Abstract: Source: ES1018409U ASPERSOR, ESENCIALMENTE CARACTERIZADO POR ESTAR ESTRUCTURADO A PARTIR DE UNA CARCASA, BASICAMENTE CILINDRICA, HUECA, ABIERTA POR SU BASE SUPERIOR Y PROVISTA EN SU BASE INFERIOR DE UN CUELLO ROSCADO PARA SU ACOPLAMIENTO A LA CORRESPONDIENTE CONDUCCION DE ALIMENTACION DE AGUA, CARCASA EN CUYO SENO JUEGA UN CUERPO MOVIL, QUE TIENDE A SER RETENIDO EN EL SENO DE LA MISMA POR EFECTO DE UN RESORTE, EN CONTRA DEL CUAL DICHO CUERPO MOVIL ES AXIALMENTE DESPLAZABLE POR LA PROPIA PRESION DE AGUA QUE LLEGA AL ASPERSOR, HABIENDOSE PREVISTO QUE DICHO CUERPO MOVIL INCORPORE EN CORRESPONDENCIA CON SU BASE INFERIOR UNA EXPANSION ANUAL QUE CONSTITUYE LA BASE DE APOYO PARA DICHO RESORTE Y QUE A SU VEZ ESTA PROVISTA DE PATINES EXTERIORES QUE JUEGAN EN GUIAS OPERATIVAMENTE PRACTICADAS EN LA CARA INTERNA DE LA CARCASA, EN SENTIDO DE SUS GENERATRICES, MIENTRAS QUE DICHA CARCASA CUENTA EN SU EMBOCADURA CON UNA TAPA ANULAR, FIJABLE POR ATORNILLAMIENTO A DICHA EMBOCADURA CON INTERPOSICION DE UNA JUNTA, QUE ES ATRAVESADA POR EL CUERPO MOVIL DURANTE LA MANIOBRA DE EMERGENCIA DE ESTE ULTIMO Y SOBRE LA QUE ASIENTA INTERIORMENTE UN CASQUILLO DE NATURALEZA PLASTICA QUE CONSTITUYE EL VERDADERO APOYO PARA EL RESORTE. The **sprinkler**, essentially characterized by being structured from a housing, substantially cylindrical, hollow, OPEN AT ITS UPPER BASE AND PROVIDED IN ITS LOWER BASE WITH A THREADED NECK FOR COUPLING TO THE CORRESPONDING WATER SUPPLY LINE, HOUSING IN WHICH A MOVABLE body, which TENDS TO BE RETAINED WITHIN THE SAME BY EFFECT OF A SPRING, AGAINST WHICH SAID MOVABLE BODY IS AXIALLY DISPLACEABLE BY THE PRESSURE OF WATER that reaches the **sprinkler**, IT BEING PROVIDED THAT SAID MOVABLE BODY INCORPORATES IN CORRESPONDENCE WITH ITS LOWER BASE ANNUAL GROWTH WHICH CONSTITUTES THE BASE OF SUPPORT FOR SAID SPRING AND WHICH IN TURN IS PROVIDED WITH OUTER SKID SHOES Play GUIDES OPERATIVELY MADE IN THE INNER FACE OF THE HOUSING, IN DIRECTION OF ITS GENERATRICES, WHEREAS said housing has at its mouth WITH AN ANNULAR CAP, attachable by screwing to said MOUTH WITH THE INTERPOSITION OF A SEAL, which is traversed by the movable BODY DURING THE EMERGENCY MANEUVER OF THE LATTER AND ON WHICH sits inside a CAP OF PLASTIC NATURE IS THE REAL SUPPORT FOR THE SPRING.

Probable Assignee: JUAN ANTONIO FERNANDEZ GAITX S A FEGAISA

Earliest Publication Date: 19920116

27) Family number: 6483620 (SU912116T)

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SPRINKLING APPARATUS

Abstract: Source: SU912116T Invention relates to irrigation crop irrigation and method can be used in **sprinkler** systems designed for watering during the winter period and for introducing livestock waste. known **sprinkler**, comprising a **nozzle** barrel, rotation of the gear casing and the barrel rocker type 1. disadvantage of this device is to install it on a special foundation due to the occurrence of large dynamic loads during operation of the rotation mechanism **trunk** rocker type. lime and other **sprinkler** comprising barrel **nozzle** body and **trunk** rotation mechanism with impeller 2J. disadvantage of this device is its low operational reliability of at negative temperatures and watering livestock waste. object of the invention - improved operational reliability and the possibility of watering livestock waste at negative temperatures. The goal is achieved in that the impeller is provided with a casing made as a set in parallel with the impeller sidewall izognu10 fifth tray, attached to the **nozzle**. Fig. 1 shows a diagram of the **sprinkler**; Fig. 2 Mount the impeller housing. 15 **Sprinkler** apparatus includes barrel 1, **nozzle** 2 vakanchivayuschiys. At the outlet **nozzle** 3, the turbine is installed mehanizmvavrascheni **trunks** which dozh30 devalnogo side apparatus is placed in co-zhuh i, consisting of a tray bokovoystenki 5 and 6. sidewall 5 has an opening 7, through which passes the axis of the impeller 39, and is installed parallel to the plane of the impeller. The tray 6 is curved along an arc with a radius of 2 -, the circle radius of the impeller. The upper part of the tray 6 is connected with the **nozzle** 2 and its lower part is inclined to the horizontal at an **angle** of 40-60 degrees. During operation of the apparatus of irrigation fluid under pressure is supplied to the **trunk** stream and exits through the **nozzle** 2. Jet disintegrates in the air and irrigated soils. However, p is removed jet vanes in the turbine 3 which, while rotating through the drive mechanism transmits the movement barrel 1. Drops, arising from the interaction with the jet turbine blades and vanes ing drift towards the machine and drive mechanism are delayed lateral wall howling 5 and 6 chute k casing running down the surface soil. When watering of livestock Photo E in winter time occurs zag p dispersing casing and formation of ice, since continuously arriving droplets having a high speed and high temperature (as compared to the air temperature), rinsed well casing inner surface. When irrigation fluids, having greater viscosity necessary to perform the casing, the tray had to be bent at a radius of 1.2 the radius of the circumference of impeller 64, and its lower part is inclined to the horizontal at an **angle** of 60. **Sprinkler** supply turbine housing consisting from the side wall of the tray and allow obespechit.rabotu unit during the winter period at negative temperatures up. The claims **Sprinkler** apparatus, comprising a riser, barrel head, body and **trunk** rotation mechanism with the turbine, wherein, with the aim of improving the operational reliability, and allowing watering livestock waste at negative temperatures, the turbine is equipped with a cover, made in the as installed in parallel with the side wall of the impeller chute connected to the **nozzle**. Sources of information received into account in the examination of evidence 1.Avtorskoe USSR ?, cl. A 01 G 25/00, 1970. 2.N.V.Vinnikova.Mehanizatsi i irrigation technique crops. Album Directory. M. Rosselhozizdat, 1976. 32 (prototype)

Probable Assignee: TSNI PT I MEKH ELEK ZHIVOTNOVO

Earliest Publication Date: 19820315

28) Family number: 9521617 (US5732881A)

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TREE WATERING DEVICE

Abstract: Source: US5732881A A tree watering device having an elongated tube constructed from tube sections connected end-to-end, a **nozzle** for spraying, a water inlet, and a hanger for securing the device to a limb of a tree. The hanger may include a hook that swivels to adjust to the **angle** of the limb to hold the limb more securely. Attachments with additional **nozzles** can be added between any two of the tube sections to spray water at intermediate heights.

Probable Assignee: WOLTER JAMES

Earliest Publication Date: 19970314

29) Family number: 12942723 (US5601263A)

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TREE-MOUNTED SPRAY APPARATUS AND METHOD

Abstract: Source: US5601263A A spraying apparatus including an agricultural sprayer and a mounting bracket for affixing the sprayer to the **trunk** or limb of a tree or bush is disclosed. The mounting bracket is easily adjustable as to height, to radial position about the tree or bush, and to **angle** between the sprayer and the **trunk** or limb. This mounting bracket has a base for interfacing with the tree or bush and a connector for adjustably connecting the base with a fastener that encircles the **trunk** or limb, thus providing height and radial adjustment. The bracket further has a support member that supports the sprayer in spaced relation to the **trunk** or limb. The support member is capable of assuming a plurality of orientations, thus providing the angular adjustment. A method for spraying trees and bushes is further provided that entails the use of the spraying apparatus, determining a preferred position and orientation of the sprayer, and affixing the sprayer in that position on the tree or bush.

Probable Assignee: THAYER IND INC

Earliest Publication Date: 19970211

30) Family number: 28611805 (US6561810B)

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METHOD AND APPARATUS FOR TEACHING CHILDREN ABOUT FLUID PIPING SYSTEMS

Abstract: Source: US6561810B An apparatus for teaching a child about basic fluid piping systems comprises a kit having a plurality of pipes and pipe fittings, and a media embodying element, all of which are packaged together for sale. The pipes and pipe fittings come in a variety of shapes, sizes and types and are adapted to be interconnected with one another to form a variety of operable fluid piping systems. The media embodying element includes media that conveys information in a form that can be comprehended by children about the manner in which the pipes and pipe fittings may be interconnected with one another to form various fluid piping systems, which are adapted for connection to a water source for operating the fluid piping systems. An associated method comprises the steps of providing a water source; supplying a child with a plurality of pipes and pipe fittings that are adapted to be interconnected with one another; and equipping the child with a media embodying element that conveys information to the child about the manner in which the pipes and pipe fittings may be interconnected with one another to form a variety of operable fluid piping systems supplied with water from the water source.

Probable Assignee: IN TACT LLC

Earliest Publication Date: 20030513

31) Family number: 31485649 (US2005058689A)

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ANTIFUNGAL PAINTS AND COATINGS

Abstract: Source: US2005058689A Antifungal and antibacterial peptides, polypeptides and proteins as antifungal additives for paint and other coatings are disclosed, along with antifungal compositions, and coated surfaces with antifungal properties. Methods of using the coatings for treating and/or inhibiting growth of mold, mildew and other fungi and bacteria on objects such as building materials that are susceptible to such infestation are also disclosed.

Probable Assignee: REACTIVE SURFACES LTD LLP

Earliest Publication Date: 20050127

32) Family number: 61703792 (US2016095281A)

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SYSTEMS AND METHODS FOR USING LIGHT ENERGY TO FACILITATE PENETRATION OF SUBSTANCES IN PLANTS

Abstract: Source: US2016095281A Systems and methods are disclosed for delivering a substance into a plant. The systems and methods include a light energy that is applied to a first area on the plant to create a first indentation. The first indentation can be a minor incision or a rupture of a portion of the first area. Once the first indentation is created, a first dosage of the substance is applied to the first area in an amount effective to promote a biological response of the plant. It is contemplated that at least a portion of the substance is absorbed by the plant via the first indentation.

Probable Assignee: GPD TECHNOLOGIES LLC

Earliest Publication Date: 20160223

33) Family number: 34663755 (ES1046458Y)

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TOBERA REGULABLE PARA RIEGO POR ASPERSION.

Abstract: Source: ES1046458U 1. Tobera regulable para riego por aspersión, del tipo de las destinada a formar parte de un difusor emergente verticalmente del suelo, caracterizada porque esta constituida mediante dos piezas, preferentemente obtenidas por inyección a base de material plástico, acoplables coaxialmente con la colaboración de un tornillo de fijación y susceptibles de variar su posición angular relativa, para variar en correspondencia la amplitud del ángulo de riego, a cuyo efecto entre ambas piezas se establece una ranura lateral cuya amplitud es variable, en función de la posición relativa de dichas piezas, entre 0 degrees y 360 degrees. 1. Adjustable **nozzle** for irrigation by spraying, of the type intended to form part of a diffuser emerging vertically from the ground, characterized in that it is constituted by two pieces, preferably obtained by injection of plastic material, coupled coaxially with the collaboration of a screw and likely to vary its relative angular position, so as to vary the amplitude of the **angle** of irrigation in correspondence between the two parts is established, for which purpose a lateral slot whose amplitude is variable, depending on the relative position of said parts, between 0 degrees and 360 degrees.

Probable Assignee: DEL BARRIO SORANDO MARIA CANDE

Earliest Publication Date: 20001216

34) Family number: 31002588 (US2004187951A)

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METHOD AND APPARATUS FOR DISPENSING MOTOR VEHICLE FUEL AT UNATTENDED LOCATIONS

Abstract: Source: US2004187951A An unattended gas station is disclosed having lockable pumps usable by a control group of purchasers who are provided with unlocking keys or cards, said pumps having flame and heat detectors and fire suppressants associated therewith and being monitored from a remote location by a security company through cameras and the detectors who can activate said fire suppressants and contact necessary fire, medical, and law enforcement personnel if needed.

Probable Assignee: BARKER R KETH

Earliest Publication Date: 20040930

35) Family number: 55756266 (RU2525769C)

© PatBase

SPRINKLER-ACTIVATOR OF SECTOR IRRIGATION

Abstract: Source: RU2525769C FIELD: agriculture.SUBSTANCE: invention relates to agriculture and can be used in irrigation systems requiring sector irrigation. The **sprinkler-activator** of the sector irrigation comprises a housing with a central **trunk** and two side **trunks** having **nozzles**, rotating mechanism of **trunks** made in the form of the rocker with jet vanes. The side **trunks** are mounted on the central **trunk** at different height levels and have in the inner cavity the screw guides with left oriented guiding of the screw. Above the side **trunks** the **nozzles** are located for driving the housing in rotation, and in front of the **nozzles** on the outer surface of the **trunks** the vanes are fixed at an **angle** to the axis of the **nozzle**, and under the side **trunks** the **nozzles** for irrigation on the small sector are provided. On the central **trunk** in the area of the side **trunks** and **nozzles** the water outlet openings are made, the housing on the **trunk** is fixed by the thrust washer.EFFECT: simplifying the design of the device, obtaining the fine sprinkling with water having increased biological activity.2 dwg

Probable Assignee: G NAUCHNOE UCHREZHDENIE POVOLZHSKIY NII EKOLOGO MELIORATIVNYKH T ROSSIJSKOJ AKADEMII SEL SKOKHOZJAJ

Earliest Publication Date: 20140210

36) Family number: 64913845 (WO17024369A4)

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MATERIAL SEPARATION SYSTEM

Abstract: A material separation system consists of a set of devices capable of separating both minerals and crude oil from ocean water. It has a bold design, both with regard to performance and to functionality. The mineral separator is mounted with an inclination **angle** of 5 to 20 degrees and consists of a support comprising hydraulic devices that make it possible to collect materials to be sorted with an operational capacity of up to 100 tons per minute. All the galleries are shaped as tables with conveyor belts that float through a jet projected by sprayers which provide an intense and constant water flow through the pipes arranged in the galleries, as ducts which determine the paths of all the minerals to be selected, sorted and finally collected. The mineral separator comprises if necessary a magnetic separation system. To ensure the power supply at the separation sites, one of the devices of the system produces electrical energy by means of hydraulic turbines that can be installed near the separator. For subsea separation, energy is supplied by equipment that captures tidal energy. The system for separating crude oil from ocean water consists of a simple structure made of a material similar to the material of balloons or parachutes, and in which oil is extracted from the bottom of the ocean and conducted to a safety reservoir.

Probable Assignee: HOFFMANN JOHANNES

Earliest Publication Date: 20170216

37) Family number: 8458613 (AU199176287A)

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FIRE PROTECTION SYSTEM

Abstract: Source: AU199176287A (22) Application Date 29.04.91 I STRALIA 1. A grid arrangement for a fire protection apparatus, said apparatus including a plurality of extinguishing agent outlets operably connected to said arrangement; wherein said grid arrangement comprises a network of pathways adapted to provide a plurality of potential distribution pathways for an extinguishing agent from an agent supply means to one or more of said outlets during operation thereof.

Probable Assignee: KENNETH JOHN TUCKER

Earliest Publication Date: 19911121

38) Family number: 9455056 (SU1429992A)

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MECHANISM FOR STABILIZING INCLINATION **ANGLE** OF PIPELINE WITH DISPENSING FITTINGS OF WATERING ARRANGEMENT

Abstract: Source: SU1429992A Invention relates to agriculturally ystvu and may be used for wetting all crops. The purpose of the invention - is to provide the optimum **angle trunks sprinkler** during its rotation around the vertical axis. Stabilization mechanism is provided with a central bar with 5 driveline yoke 20 with two double-arm lever 23, 24 connected to embracing her capacity counterweight 25 in the form of a torus. Capacity counterweight 25 is mounted to oscillate in two mutually perpendicular planes. **Trunks** 6 and 7 are provided with their arms control positions 16, 17 and 18, 19, interacting in sredstvo.m flexible bonds with the bell crank 23, 24 pillar 5. Upper arms of two-armed levers 23, 24 are connected to the upper of the same name, and oppositely to the lower lever. If misalignment of the pipeline 1 the barrel 7 is disposed at an **angle** of more optimal. In this capacity counterweight povernets axis. Lower arm 24 peremestits, no sweat flexible linkage 29 and the lever 19 will crank shaft 7 with a jetting **nozzle** 15, reducing the **angle** of inclination. The upper arm 23 also povernets on the skew **angle** and flexible bond turn the **nozzle** 14. Tilt **angle** deflector **nozzle** 14 by the amount of skew uvelichits. 4 yl. C and about

Probable Assignee: VNII GIDROTEKH MELIORAT

Earliest Publication Date: 19881015

39) Family number: 619162 (BR6300944U)

© PatBase

CONJUNTOR ASPERSOR CONJUNTOR **SPRINKLER** (MACHINE TRANSLATION)

Abstract: Source: BR6300944U | 19 # | 9 ss |j ss ss ss H ss # *** 4ss 'ss,ss \ « # 1 1 • • • 9 r • « ***** • it ss»?f am RESUKO Patente Modelo de Utilidade de "CONJUNTO ASPERSOR11, qua pro- pore ion a jatos baa finos e.a forma de nuvam com. pressao t uti- lisavel,para liquidos, ar cu vapor, em resfriamentos,, contro 05 Its de temperatura e umidade> piuturas e outtoi, tendo o con junto (1) aspersor um corpo (2) com faces (3) c (3a) onde se alojam os bicos (1) com fur os (5) da saida e dispositivos i_n ternoe (and) an cad a bico. ! # 19 | 9 ss! j *** H ss # *** 4 ss ' ss, ss \ ' # 1 1 • • • 9 r • «***** • it ss ' ? f am RESUKO Patent of Utility Model "SET ASPERSOR11, Wed pro-ion pore the baa and jets. the form of nuvam with pressure t-lisavel., for liquids, air, coolant, steam ass, contro 05 Its> Temperature and humidity piuturas and outtoi, taking the con with (1) a **sprinkler** body (2) with faces (3) (c) (3a) where they lodge the **nozzles** (1) with fur (5) Saida and i_n suit onand devices (and) an cad to beak.

Probable Assignee: ARMOTEC IND AND COMERCIO

Earliest Publication Date: 19831101

40) Family number: 23073254 (FR1326183A)

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DISPOSITIF POUR LA PULVERISATION D'HERBICIDES DEVICE FOR SPRAYING OF HERBICIDES (MACHINE TRANSLATION)

Abstract: Source: FR1326183A (Claim 1) 1 II comprend un bras qui pivote sur un support, ce bras etant muni de moyens pour verser un herbicide liquide, et des moyens servant a deplier ce bras par rapport au support, grace a quoi lorsque l'on deplace ce dernier jusqu'a ce que le bras deplie vienne frapper un arbre, ce bras se replie mais reste au contact du pourtour de l'arbre sous l'effet des moyens de deploiement, et il guide les moyens de deversement du liquide au-dessus du sol et au pied de l'arbre;

Machine translation: (Claim 1) comprises an arm 1 II which pivots on a support, said arm being provided with means for pouring a liquid herbicide, and means for unfolding the arm relative to the support, whereby when the it moves it until the arm extended to knock a tree, this arm to fold but remains in contact with the circumference of the shaft under the effect of deployment means, and guide means of the liquid spill above the ground and at the foot of the shaft;

Probable Assignee: ICI LTD

Earliest Publication Date: 19630503

41) Family number: 23066851 (FR1366889A)

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CARBURETEUR A UN SEUL GICLEUR ET A COMMANDE UNIQUE CARBURETOR FOR A JET AND ONLY A SINGLE CONTROL (MACHINE TRANSLATION)

Abstract: Source: FR1366889A (Claim 1) 1. Carburateur a niveau constant pour moteur a explosions, a un seul gicleur et a une seule commande du reglage du melange gazeux, constitue par un corps tubulaire dans lequel tourne, autour du gicleur, un boisseau cylindrique traverse diametralement par,un canal principal pour la marche a plein gaz, par un canal moyen en deux parties debouchant -dans le precedent pour la marche en starter, et perce d'un petit canal debouchant egalement dans le canal principal pour la marche au ralenti, chacune de ces allures etant determinee par une position angulaire donnee du boisseau tournant.

Machine translation: (Claim 1) 1. Constant level for a carburetor engine explosions, has only one **nozzle** and one order of adjustment of the gas mixture, is a tubular body which revolves around the **nozzle**, a cylindrical cross diametrically by a main channel for walking has full power, by using a channel in two parts in the previous LEAD TO- walking to choke, and drills a small channel which also opens into the main channel for idling, each of these gaits being determined by a position given **angle** of rotary valve.

Probable Assignee: GURTNER SA

Earliest Publication Date: 19640717

42) Family number: 3641705 (SU1263214A)

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SPRINKLER FOR IRRIGATING SLOPES

Abstract: Source: SU1263214A Claims **sprinklers** for irrigation of sloping land, containing a fixed riser, rotating **sprinkler nozzle** dvuhstvolny with hinged **trunks**, pointing in opposite directions, and the copier, characterized in that in order to improve the efficiency of irrigation sloping lands by automatically varying the **angle** of inclination **trunks** depending on the slope of terrain feeler device is made as a spherical protrusion at the top of the riser, which is seated on the holder with the possibility of varying the inclination **angle** in the horizontal plane, the ferrule through a rotating bearing ring and the connecting rods coupled to the movable shafts **sprinkler nozzle**. Ci e / yu / ecffau and gt/s/7gu/7 cpus.Z srig.Z L fig

Probable Assignee: MO GIDROMELIORATIVNYJ INST

Earliest Publication Date: 19861015

43) Family number: 65930755 (CN206196808U)

© PatBase

MEAT CHICKEN IS SLAUGHTERED GYRATION OF IN -PROCESS **TRUNK** U TYPE AND IS SPRAYED AND INSTALL CLEARLY

Abstract: Source: CN206196808U The utility model discloses a meat chicken is slaughtered gyration of in -process **trunk** U type and is sprayed and install clearly belongs to the equipment of slaughtering technical field. The device adopts U type gyration design, compares with tradition straight line tunnel type cleaning machine, and the limited operating space of mill is slaughtered in U type gyration design that this device adopted more efficient utilization, practices thrift area, prolongs the cleaning effect time, the promotion cleaning performance, simultaneously, implement the segmentation and wash, according to meat chicken **trunk** size and slaughtering line functioning speed, through calculating, the rational planning and scientific arrangement difference spray the washing unit water pipe with meat chicken **trunk** interval, shower **nozzle** quantity, **sprinkler** spacing, the **angle** isoparametric sprays, guarantee that whole in -process does not have the washing breakpoint, can realize simultaneously to the whole and key effective washing of polluting the position of meat chicken **trunk** on the basis of practicing thrift the water consumption that the sewage of avoiding the **trunk** top drips and causes the local pollution to the below. The cleaning performance that reach the high efficiency, lasts can show the improvement cleaning efficiency.

Probable Assignee: UNIV NANJING AGRICULTURAL

Earliest Publication Date: 20170531

BEREGNUNGSANLAGE MIT IN ZWEI VERSCHIEDENEN EBENEN VERSCHWENKBARER DUESE IRRIGATION SYSTEM WITH TWO DIFFERENT LEVELS PIVOTABLE **NOZZLE** (MACHINE TRANSLATION)

Abstract: Source: DE428460A (Claim 1) 1. PATENTANSPRUECHE: i. Beregnungsanlage mit in zwei verschiedenen Ebenen verschwenkbarer Duese, gekennzeichnet durch die Verwendung von je einem Wassermotor fuer jede Schwenk bewegung, von denen der eine eine ununterbrochene, der andere eine schrittweise fort schreitende hin und her gehende Schwenk bewegung hervorruft. z. Beregnungsanlage nach Anspruch i, dadurch gekennzeichnet, dass der Motor fuer die ununterbrochene Schwenkbewegung denjenigen fuer die schrittweise fortschreitende steuert, indem bei einem vollen Bewegungs spiel des ersteren der zweite mindestens einen Schritt macht. 3. Beregnungsanlage nach Anspruechen i und 2, dadurch gekennzeichnet, dass an einem hin und her gehenden Teil des Hauptmotors ein verstellbarer Anschlag vorgesehen ist, in dessen Bewegungsbahn der Anschlag eines Selbstschlussahnes fuer die Wasserzufuhr des zweiten Motors liegt.

Machine translation: (claim 1) 1. PATENTANSPRUECHE: i **sprinkler** system with various levels of pivoted in two different **nozzle**, characterized by the use of a water motor for each movement of each pivoting, one of which is an uninterrupted brochene, the other continuing a gradual border reciprocating pivoting motion causes. such **sprinkler** system according to Claim i, characterized in that the motor for the continuous pivotal movement of thejenigen for controlling the gradual progressive by play in a full motion makes the former, the second at least one step. Third **Sprinkler** system according to claims I and 2, characterized in that on a reciprocating part of the main motor, an adjustable stop is provided, in whose movement path of the stop of a self-closing cock is for the water supply of the second motor.

Probable Assignee: ERWIN PALM

Earliest Publication Date: 19260504

CANTILEVER **SPRINKLER** HEAD FOR DRY POWDER

Abstract: Source: US3010521A (Claim 1) 1. A **sprinkler** head for dispensing dry powder tire extinguishing chemicals comprising an integral housing having a vertically disposed central cylindrical borehole therethrough having an interior ledge adjacent its base, said 45 housing having a depending conical opening communicating with the base of said borehole and in suitable space relationship to said interior ledge, said housing being provided with a pair of spaced-apart diametrically opposed slots each extending through the housing wall formmg 50 the conical opening, said housing having an exterior circular groove disposed in the cone formmg housing wall; cylindrical piston means disposed slidably in said borehole and having an interior cavity communicating with a plurality of lateral openings adjacent the front end 55 thereof, said piston having an integral exteriorly disposed ledge adapted to arrestingly engage said interior ledge of said housing, said piston having an annular groove disposed in the cylindrical surface adjacent the front end; an O-ring of sealing résilient plastic material dis-60 poséd in said annular piston groove and in gas tight relationship to said borehole; a pair of longitudinal arms having cam edges adjacent one end, each provided with an aperture in suitable space relationship to said cam edges, said cam edges being disposed in said slots of said 65 housing and adapted to engage the front wall of said piston in said borehole; a retaining pin disposed captively in said exterior groove of said housing and through said apertures of said arms and fusible means securing the

Probable Assignee: SAFETY FIRST PRODUCTS CORP

Earliest Publication Date: 19611128

VORRICHTUNG ZUM AUFSPRUEHEN VON FLUESSIGKEITEN AUF PULVERSTOFFE

Abstract: Source: CH509833A (Claim 1) 1. Vorrichtung nach Patentanspruch I, gekennzeichnet durch einen oeffnungswinkel des Kegelstumpfs zwischen 10 und 450. A rotating drum, in the form of a truncated cone, lies with its lower edge either horizontal or a few degrees above the horizontal as seen from the broad end, and has a powder feed mechanism at the wide end, together with one or more spray **nozzles**. The wetted powder being extracted at the narrow end. Additional facilities which may be added are a further mixer drum for adding dry powder, heaters and scrapers in the upper part of the drum(s). The spray impinges obliquely downwards on the powder.

Probable Assignee: PFRENGLE OTTO DR ING

Earliest Publication Date: 19710715

SPRINKLER WITH ADJUSTABLE TILT (MACHINE TRANSLATION)

Abstract: Source: RU79455U

Machine translation: (Claim 1) **Sprinkler** with adjustable tilt, consisting of a base, a glass stem with a **nozzle** beam with return spring and ball joints, characterized in that, in order to extend the range of applications, improve irrigation and reduce operating costs, the slope of the ball joint allows the **trunk** to **nozzle** to the horizon at an **angle** of 5 degrees, 10 degrees, 15 degrees and 30 degrees in one plane, and rigid fixation of the **trunk** at a right **angle** by a bolt on the external element of ball joint, the cone is included in one of four conical depressions located at inner element ball joint, and the inlet and outlet diameters of ball joint elements have increased diameters in the same side of a common axis at 25 degrees, the slope of the barrel providing apparatus and reduce the diameter of the input shaft unit is tilted from 5 to 30 degrees. [IMAGE]

Earliest Publication Date: 20090110

SPRINKLER

Abstract: Source: SU1584827A Invention relates to the mechanization of agricultural irrigation crops and may be used in a **sprinkler** vehicle. The aim of the invention is to increase reliability and simplify the structure. **Sprinkler** apparatus includes a base, a rotatable sleeve body with **trunks** and main **nozzles** and subsidiary rotation mechanism configured as a valve 9 hydrodynamic jet **nozzle** 12 and an elastic membrane 13 with a central opening 14. Valve 9 is mounted on the barrel to form a pivot axis relative to the shoulder of the sleeve. When fired, the pulse **sprinkler** valve seat 11 due to 9, the elastic membrane 13 with a central opening 14 and the outlet **nozzle** 12 forms a short-term jet stream, which pushes the barrel clockwise and moves the body of the aircraft at a certain **angle** relative to the base. Short-lived jet is formed in the initial phase of the shot pulse **sprinklers**. 2 yl.

Probable Assignee: V N PROIZV OB MEKH OROSHENIYA

Earliest Publication Date: 19900815

49) Family number: 58071056 (US2016138816A)

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HUMIDIFYING UNIT FOR A HVAC SYSTEM

Abstract: Source: US2016138816A A Heating Ventilation and Air Conditioning system is provided having airways configured to direct airflow towards a confined area, the system including a humidifying unit having a tray disposed in the airways and configured to hold water therein, the tray is so disposed in said airways such that the water humidifies the airflow in said airways controlling thereby the humidity level in the confined area.

Probable Assignee: MF CLEVER SOLUTIONS LTD

Earliest Publication Date: 20141218

50) Family number: 54407563 (RU93010608A)

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SREDNESTRUYNY **SPRINKLERS (MACHINE TRANSLATION)**

Abstract: Source: RU93010608A Device relates to agriculture and can be used in **sprinkler** systems. To simplify the design and reduce the intensity of rain srednestruyny **sprinkler** comprises a housing, the central (vertical) **trunk**, **trunk** with two lateral **nozzles** having **angles** between the center lines of their openings to the horizontal in the range of about 30 degrees, the rotation assembly - one arm - the two reactive blades on the end (s), two racks rigidly connected sidetrack limiting the rotation arm, the return spring on one of the rotating parts, such as the top of the rack rotating mechanism, two-armed bracket is rigidly fastened in the central plane of the centerlines and a sidetrack **nozzles** whose ends are placed outside the rotating parts, and at each end, for example by sliding in a longitudinal groove bolted rigidly fixed deflector which faces the working surface of the cylindrical shape the water jet ejected by the cylindrical **nozzle** hole. The working surface of each baffle is straight-tramplinoobraznuyu form if it is conventionally cut the vertical plane passing through the center lines of luggage and accessories. Deflectors mounted so that their initial work surface with a jet of water forms an acute **angle** and end working surfaces form different **angles** with the horizontal direction of flight of the jet. At the final work surface or sidewall stiffness deflector side, which rotates in the direction of the machine, there is a vertical plate at an **angle** to the jet direction lines, by moving the deflector against the direction of rotation of the machine, creates a reaction force that helps to rotate the rotation mechanism unit 2 pulses - 4 degrees for every hit on the arm bar. Srednestruyny sprinkling apparatus can be used in an inverted position by 180 degrees, e.g. hanging on the rod.

Earliest Publication Date: 19950827

51) Family number: 32761340 (US2006064929A)

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IRRIGATION AND SOLUBLE PRODUCT DELIVERY SYSTEM

Abstract: Source: US2006064929A An article for storing water and selectively dispensing the water to an area proximate a root system. The article includes a rigid lower container that is segregated into a first quantity (n) of container portions where each of container portion is configured to separately hold a predetermined quantity of water. The article also includes a second quantity (m, where m greater than or equal to(n-1)) of valves that can be positioned in an open condition, which permits fluid communication therethrough to allow the predetermined quantity of water to be drained from an associated one of the container portions, and a closed position, that inhibits fluid flow therethrough. A method for irrigating a root system is also provided.

Probable Assignee: ALLEN DAVID M

Earliest Publication Date: 20060330

52) Family number: 6059827 (LU74671A)

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Abstract: Source: LU74671A [Source: Claim 1] 1. Dispositif arroseur destine a la distribution automatique de granules, de poudres mouillables, ou de liquides hydrosolubles ou miscibles a l'eau, dans un courant d'eau d'arrosage, dispositif qui comprend un reservoir destine a recevoir la matiere a distribuer et une tete fixee sur le reservoir, et comportant un systeme de melange et de prelevement pouvant etre relie, en amont, a une source d'eau sous pression, et en aval a un appareil d'epandage, caracterise en ce que la tete comporte une entree et une sortie du courant d'eau, un canal principal reliant l'entree et la sortie de la tete et un etrangement, dans ledit canal, par lequel le courant d'eau provenant de la source est divise, dans la tete, en deux parties, l'une, primaire, poursuivant son mouvement vers l'aval, et l'autre, secondaire, etant dirigee vers l'interieur du reservoir par une ouverture laterale du canal et ressortant par une deuxieme ouverture laterale du canal pour se melanger au courant primaire; ledit etrangement etant situe dans l'espace compris entre les deux ouvertures laterales. [Source: Claim 1] 1. **Sprinkler** device indicated to the automatic distribution of granules, wettable powders or water-soluble liquid or miscible with water in a spray of water current, which device comprises a reservoir intended to receive the material to distribute and a head attached to the shell and comprising a mixture of system and Levy may be connected upstream to a pressurized water source, and downstream is a device spreaders, characterized in that said head includes an entree and an outlet of the water flow, a main channel connecting the entrance and exit of the head and a constriction in said channel, through which the stream of water from the source is divided, in the head, in two parts, one, primary, continuing its movement downstream, and the other, secondary, being directed toward l'interieur the tank by a lateral channel opening and leaving through a second lateral opening of the channel to mix aware primary; said constriction being located in the space between the two lateral openings.

Earliest Publication Date: 19771010

53) Family number: 50810877 (RU112594U)

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****SPRINKLER** BEND BARREL OF TERMS (MACHINE TRANSLATION)**

Abstract: Source: RU112594U

Machine translation: Sprinkling apparatus bend the **trunk** in a circle, consisting of a base, the glass body with the barrel with the **nozzle**, the beam and the recoil spring, characterized in that, in order to simplify construction, improve the quality of irrigation and the expansion of the scope, at a constant wind direction and the upper part of the base of the inner end of the bearing surface under the glass are the slopes at **angles** of $2 \div 12$ degrees vertically and horizontally, and the **angles** of inclination of the barrel with **nozzle** - $11 \div 21$ degrees to the plane perpendicular to the axis of the body, which automatically provides the rotation unit **angle** of the barrel with the **nozzle** against the wind $6 \div 12$ degrees, and the wind $16 \div 30$ degrees.

Earliest Publication Date: 20120120

54) Family number: 53099730 (DE102011112200A1)

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AIR-WATER HEAT EXCHANGER OF AIR-CONDITIONING SYSTEM, HAS A CAPILLARY TUBE HAVING HYDROPHILIC OR WATER-SPREADING SURFACE OR ACTIVE LAYER CONTACTING WITH HYGROSCOPIC MATERIAL OF DISTRIBUTOR FOR UNIFORM DISTRIBUTION OF FLUID INTO MANIFOLD

Abstract: The heat exchanger has several capillary tubes (1) for the flow of to-be-cooled or heated fluid. The capillary tubes has a hydrophilic or water-spreading surface on the outside, at a contact **angle** below $20[\text{deg}]$, or an active liquid-conducting layer through which the liquid diffuses due to capillary forces. A distributor (4) made of hygroscopic material, is arranged for uniform distribution of fluid into a manifold. The hydrophilic or water-spreading surface of the capillary tube or the active layer is set in contact with the hygroscopic material of the distributor.

Probable Assignee: HERBST DONALD

Earliest Publication Date: 20130228

55) Family number: 9506301 (SU1470242A)

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SEGMENTED WATERING MACHINE

Abstract: Source: SU1470242A Invention relates to agriculturally ystvu and can be used in **sprinkler** systems. The purpose of the invention - to simplify the design and reliability of the device. Sector **sprinkler** consists of a housing 1, 2 barrel with **nozzle** mechanism 3 4 rotation of the **trunk** and providing device sector irrigation. Providing device irrigation sector is in the form vodootrazhayuschey plate 5 and 7 of the deflector. The working surface of the deflector 7 forms an acute **angle** alpha to the plane of rotation of the plate 5 with the generator. Acute apex **angle** alpha is directed toward the rotation operating unit. Due to the kinetic energy of the jet falling on the deflector 7, generated reactive torque, turning the barrel 2 in the direction of rotation of the working machine. 1 z.p.f claims, 3 yl.

Probable Assignee: VOLZH NII GIDROTEKH MELIOR

Earliest Publication Date: 19890407

56) Family number: 940358 (CU21560A)

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SPRAYER DEVICE FOR AN IRRIGATION MACHINE

Abstract: Source: CU21560A [Source: Claim 1] 1- Dispositivo rociador de acuerdo con cualesquiera de las reivindicaciones 1 a 6, caracterizado en que los grupos de boquillas 720/ estan montados en soportes telescopicos 7247, los cuales pueden ser alargados a una extension variable y dichos soportes estan instalados en una estructura 732/ sobre ruedas 7337. Dispositivo rociador segun se reivindica en la reivindicacion 7, caracterizado en que los soportes telescopicos 724/ estan conectados a la estructura 732/ de una manera verticalmente ajustable por via del soporte telescopico 7317. [Source: Claim 1] 1- spray device according to any of claims 1 to 6, characterized in that the groups of **nozzles** 720 are mounted on telescopic supports 7247/, which can be elongated to a variable extension and said supports are installed on a structure on wheels 732/ 7337. Spraying device as claimed in claim 7, characterized in that the telescopic supports/ 732/ 724 are connected to the structure of a vertically adjustable via the telescoping support 7317.

Probable Assignee: DEBRECENI MEZOEKAZDASAGI

Earliest Publication Date: 19870722

57) Family number: 10473419 (RU2034446C)

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MEDIUM-JET SPRINKLING APPARATUS

Abstract: Source: RU2034446C

FIELD: agricultural engineering. SUBSTANCE: this apparatus incorporates equidirectional tubes 3, rocker arm 5 carrying rotatable deflectors 10 with pivotally revolving jet plates 12 facing attachment fittings 4 of tubes 3. Water jet sprayed from end fitting 4 is directed to deflector 10 and plate 12 to leave their edges radiatingly at certain **angles** and with high velocity. With sprinkling apparatus suspended, its deflector 10 may raise water jet coming out of end fitting 4 from -30 to $+10$ deg relative to horizon, maintaining optimum jet discharge **angle** and atomized spraying. EFFECT: more sophisticated design. 4 dwg

Probable Assignee: N PROIZV OB EDINENIE VOLZH NI

Earliest Publication Date: 19950510

58) Family number: 21850041 (FR1457311A)

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INSTALLATION DE LAVAGE POUR VEHICULES INSTALLATION WASHING VEHICLE (MACHINE TRANSLATION)

Abstract: Source: FR1457311A [Source: Claim 1] RESIJBIE L'invention, a pour objet une installation de lavage pour vehicules, par exemple pour automobiles de tourisme qui est constituee par un ou plusieurs chas sis equipes - de brosses rotatives et qui peut ou peu vent se deplacer par rapport a un vehicule, cette installation etant remarquable notamment par les caracteristiques suivantes, considerees separement- ou en combinaison 1 Chaque brosse est montee sur un parallelo gramme deformable et- elle peut osciller autour d'au moins deux axes qui se croisent; 2 La brosse est montee rotative dans les branches d'un etrier en forme de U qui l'entourent et l'e- trier est articule sur deux- biellettes du parallelo gramme; 3 Le parallelogramme est relie- a un moteur a deplacement alternatif commandable, par exemple a un verin pneumatique; 4 Les biellettes sont articulees a un palier qui est relie a au moins une traverse du chassis de finstaueation et elles sont agencees de facon a pou voir osciller autour d'axes qui s'etendent parallele- ment a l'axe longitudinal du vehicule; 5 Le palier peut osciller sur la traverse autour d'un axe qui s'etend transversalement a l'axe longi- tudinal du vehicule; 6 Chaque brosse est montee dans son etrier de facon a pouvoir osciller autour d'un axe qui s'etend parallelement a l'axe longitudinal du vehicule; 7" L'axe d'oscillation de la brosse se trouve dans une -chambre de l'etrier et l'autre extremite, ou ex tremite libre de la brosse est stabilisee par des res sorts; 8 La brosse est montee de facon a pouvoir etre rabattue de la position verticale a la position hori- zontale, par exemple grace au fait que l'une des biellettes est constituee par une tige de piston re glable en longueur; 9 Ii est prevu dans la zone d'oscillation de chaque brosse, des interrupteurs pour assurer une com mande automatique et qui, lorsqu'ils sont actionnes pendant l'oscillation de la brosse, commandent des elements moteurs; 10 Une brosse horizontale est montee sur un dispositif forme de ciseaux de biellettes de facon a pouvoir se deplacer dans le sens vertical; 11 La brosse horizontale est fixee aux ciseaux de biellettes de facon a pouvoir ceder elastique- ment sous l'effort de pousse; 12 A la place d'une- brosse, est articulee sur le paraleiogramme deformable un dispositif d'arro sage qui comprend une serie de buses ou equiva lents et qui est muni d'entretoises d'ecartement qui contraignent les buses a rester a une distance fixe et toujours constante de la- surface du vehicule; 13 Les entretoises d'ecartement sont constituees par des galets qui sont montes rotatifs sur le dis positif d'arrosage et qui prennent appui sur la sur face du vehicule; 14 Les galets comportent sur leur peripherie un revetement souple; 15 Les moyens de suspension et d'entrainement des biellettes- du parallelogramme sont agences de facon a pouoir se deplacer perpendiculairement a la direction du -deplacement relatif -du vehicule par rapport au dispositif de lavage. [Source: Claim 1] RESIJBIE The invention relates to a washing facility for vehicles, for example automobiles tourism that is constituted by one or more teams chas sis -from rotating brushes and may or little wind move relative to a vehicle, this installation being particularly remarkable by the following characteristics, regarded separately- or in combination 1 Each brush is montee a deformable parallelo gram and- it can swing around at least two intersecting axes; 2 The brush is rotating montee in the branches of a U-shaped stirrup surrounding et l'e- sort is articulated on two-rods of parallelo gram; 3 The parallelogram is relie- has an engine displacement commandable alternative, for example a pneumatic cylinder; 4 rods are articulated at a bearing which is connected to at least one cross finstaueation of the chassis and are arranged to see louse oscillate about axes which extend parallel to the longitudinal axis of the vehicle; The bearing 5 can oscillate on the crossbar about an axis which extends transversely to the longitudinal axis of the vehicle; 6 Each brush is montee in his way was caliper to be able to oscillate about an axis that extends parallel to the longitudinal axis of the vehicle; 7 "The oscillation axis of the brush is in a -room of the caliper and the other end, or ex Tremite free of the brush is stabilized by spells res; 8 The brush is a way to buildup be folded from the vertical to the horizontal position, for example thanks to the fact that one of the rods is constituted by a piston rod re adjustable in length; 9 Ii is expected in the oscillation area of each brush, switches to ensure com automatic control and which, when sets in action during the oscillation of the brush control motors elements; 10 a horizontal brush is montee a device shaped rods manner of scissors was able to move in vertically, the horizontal brush 11 is fixed to scissors way of connecting rods has to give way elastically under the force of thrust; 12 instead dune- brush, is articulated on the paraleiogramme deformable a wise arro device comprises a series of **nozzles** or Equiva slow and which is provided with spacer webs which force the **nozzles** to remain always has a fixed and constant distance from la surface of the vehicle; The spacing 13 spacers are formed by rollers which are rotatably mounted on the said positive watering and rest on the front of the vehicle; 14 The rollers have on their periphery a flexible coating; 15 The means of suspension and drive of the parallelogram are biellettes- way agencies has pouoir to move perpendicular to the direction of relative -Displacement -the vehicle relative to the washing device.

Probable Assignee: BOWE BOHLER AND WEBER K G MASCHI

Earliest Publication Date: 19660124

59) Family number: 33029764 (RU2002114689A)

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SPRINKLERS WITH THE HORIZONTAL LENGTH OF THE TRUNK OF WIDE-MULTISUPPORT MACHINES (MACHINE TRANSLATION)

Abstract: Source: RU2002114689A

Machine translation: (Claim 1) 1. **Sprinkler** with two long barrels, one of which is equipped srednestruynym **nozzle**, and the other - Beam attachment in general water inlet head with a vertical axis of rotation, wherein the shafts are arranged in a horizontal plane in opposite directions and are at the center of the intersection of the longitudinal axes **trunks** vertical-axis water intake tip support rod is coaxial with long barrels and aimed them at an **angle** of 90 degrees so that its length is less than the length of the barrel, at the junction with long barrels is divided into equal parts, and on the outer ends of the fingers are locking.

Probable Assignee: FEDERAL STATE SCIENTIFIC INSTITUTION CENTER OF SCIENTIFIC AND TECHNICAL INFORMATION MELIOVODINFORM

Earliest Publication Date: 20040120

60) Family number: 3756540 (SU1344286A)

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FRONT-MOUNTED SPRINKLER

Abstract: Source: SU1344286A Invention relates to agriculturally ystvu particularly to irrigation technology. The purpose of the invention - the exception flooding zone comprised within the immediate vicinity of the **sprinkler**. Dividers jets mounted on the shaft 1 by the starter. Dividers are made in the form of a cup with 8 longitudinal, evenly spaced along the length of the ribs and the diametrically slotted windows 10 on the walls. 8 forms the **nozzle** axis in plane with the axis of the barrel 1 is an acute **angle**. Jets, departure from the **trunk** hits the cylindrical portion 8 and 9 cups causes it to rotate. In the working position splitter cylindrical part 9 moves out of the effect of the jet and the jet acts only on the blade edges 11. Divider, while rotating blades 11 bisecting the jet into individual segments which are evenly distributed along the length of the jet plume. 1 h. § f-ly, 4 yl. "(On 00 April 4 May 9 GChE GS 77 70 Figure 8. /

Probable Assignee: G SP K B MEKH IRRIGATSIONNO ME

Earliest Publication Date: 19871015

61) Family number: 41040062 (US2009314859A)

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SPRAY DEVICE

Abstract: Source: US2009314859A The invention provides an improved miniature spray device (100) for providing uniform water distribution over a designated area surrounding the device (100). The spray device (100) comprises a spray plate (130) which is provided with a water dispersion surface (131) which is preferably cone shaped, a water outlet (120) for directing a stream of water from a pressurised source towards a central region of the spray plate (130), a support frame (150) for holding the spray plate (130) in spaced apart relation to and in alignment with the water outlet (120), wherein the water dispersion surface (131) is provided with flow deflection means (132, 133, 134) for changing the direction of flow of the water as it flows over the surface (131) to produce a substantially uniformly distributed spray pattern.

Probable Assignee: ANTELCO PTY LTD

Earliest Publication Date: 20080110

62) Family number: 60800909 (VN14596A)

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SPRINKLER SYSTEM FOR ANGLE AND DELICIOUS FRUIT (MACHINE TRANSLATION)

Abstract: Source: VN14596A Invention relates to systems and tops root watering of fruit trees including pump (5); Straws (4); filter (1) and spam shields (2) is connected to the suction pipe (4); return valve (3) is arranged in the nozzle head (4); main pipe (6); Branch tube (8) is connected to the main pipe (6); irrigation pipe (11) is connected to the branch pipe (8) through the first division four (9); irrigation valve (7) is arranged on the branch pipe (8) and before the first division four (9) from the main pipe (6); Irrigation branched stem (12) and fresh branch (11 ') is connected to the irrigation pipe (11); Original irrigation pipe (12 ') form a closed circle around the trunk is connected to the original irrigation branch (12), which on irrigation tube (12') has cut small holes (13) and downwards under the tree; irrigation nozzle tip (14) is arranged at the end on fresh branches (11 '); and damper drip or rain (15) is arranged on the irrigation tube (11). In particular, the damper drip or rain (15) is made with a marble structure with metal or glass with a diameter matching size damper body dripping or rain and irrigation tubes (11), and have the regulatory regime can simultaneously water to irrigate the top branch (11 ') and branched root watering (12) or only water for either irrigation branch tip (11') and branched root watering (12) above, depending on irrigation needs.

Earliest Publication Date: 20151026

63) Family number: 7239184 (US3720375A)

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AUTOMATIC SPRINKLING APPARATUS

Abstract: Source: US3720375A ABSTRACT OF THE DISCLOSURE

An apparatus comprising a vertical tube connected at its lower end to a source for supplying a liquid to be sprinkled, at least one horizontal tube connected to the upper end of the vertical tube and adapted to be rotated about the axis of the vertical tube so as to conduct the liquid from the vertical tube in a horizontal direction, at least one downward tube connected to the distal end of the horizontal tube for conducting the liquid downward and jet means mounted on the lower end of the ^ downward tube for forcing out the liquid from the downward tube while being automatically rotated or pivotally moved by the energy of the discharged liquid and causing the reaction force of the discharged liquid to act on the horizontal tube as a torque therefor. The jets of liquid 2g are sent out from the apparatus in highly three-dimensional manner for uniform application of the liquid to fruit trees.

Probable Assignee: KUMAOKA H

Earliest Publication Date: 19730313

64) Family number: 23931482 (US6453607B)

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ROOT-LEVEL PLANT WATERING AND FEEDING DEVICE

Abstract: Source: US6453607B A root-level plant watering and feeding device has a hollow annular liquid dispersion member that circumscribes a center opening of sufficient size to completely encircle a buried root system of a plant and an elongate hollow tubular fill tube connected with the dispersion member which has an upper portion extending upwardly therefrom terminating in an open top end. A removable cap encloses the open top end. The dispersion member has an upper and lower row of longitudinally spaced perforations through its side wall that face toward the center opening. The dispersion member is positioned underground in a substantially horizontal plane with its center opening completely encircling the buried root system in radially spaced relation with the fill tube extending upwardly therefrom and its open top end disposed above the ground surface. Liquids and nutrients introduced into the fill tube are disbursed generally equally through the soil with the upper row of holes directing liquid and nutrients toward an upper portion of the root system and the lower row directing liquid and nutrients toward or below a lower portion of the root system. When the fill tube is empty and the cap is removed, the device serves as an aerator conduit to deliver oxygen directly to the soil surrounding the roots.

Probable Assignee: HELWICK II ELDRIDGE

Earliest Publication Date: 20020924

65) Family number: 50811631 (RU112596U)

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IRRIGATION KIT PODKRONOVOGO IRRIGATION OF GARDENS AND NURSERIES (MACHINE TRANSLATION)

Abstract: Source: RU112596U

Machine translation: Irrigation Kit podkronovogo irrigation of gardens and nurseries, which consists of distribution piping and sprinkler wings with ring taps, characterized in that, in order to improve agricultural irrigation conditions, reduce operational costs and simplify design, the ring of non-closed taps are installed at equal distances deflector nozzle sectoral action of which the ring is given by: where a - the angle of attachment of irrigation sector in degrees, and the diameter of the ring A satisfies the value of non-closed branches: $D = 1.5 d$, where d - the largest diameter tree trunk, with two attachments installed at the ends of the ring.

Earliest Publication Date: 20120120

66) Family number: 21490461 (FR1432321A)

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INSTALLATION DE REFOROIDISSEMENT DE LIQUIDES LIQUID COOLING PLANT (MACHINE TRANSLATION)

Abstract: Source: FR1432321A [Source: Claim 1] 1 Installation de refroidissement d'un liquide qui s'écoule de haut en bas à l'aide d'un gaz s'écoulant du bas vers le haut étant maintenu en contact étroit avec le liquide, du type dans lequel une enveloppe commune contient au moins deux ventilateurs protégés par un écran- une cuve receptrice de liquide, une couche de corps de remplissage. au moins deux buses d'arrosage au-dessus de celui-ci, ainsi qu'un couvercle, installation caractérisée par une colonne verticale, au milieu de l'enveloppe supportant l'ensemble de l'installation de refroidissement, les ventilateurs étant montés dans l'espace intermédiaire entre cette colonne et la paroi extérieure de l'enveloppe, ce qui soulage l'enveloppe du poids et des forces de vibration des éléments de l'installation; [Source: Claim 1] 1 Installing a cooling liquid that will flow from top to bottom has a gas using flowing from bottom to top being kept in close contact with the liquid, of the type wherein a common envelope contains at least two fans protected by a screen-receiving vessel a liquid, a packed layer. at least two spray **nozzles** above thereof, and a cover installation characterized by a vertical column, in the middle of the envelope supporting the assembly of the cooling device, the fan being mounted in the intermediate space between the column and the outer wall of the envelope, which relieves the envelope weight and vibration forces of the elements of the installation;

Probable Assignee: LINDES EISMASCHINEN AG

Earliest Publication Date: 19660318

67) Family number: 61542563 (PT107722A)

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DISPOSITIVO DE PULVERIZACAO DE AGROQUIMICOS E FERTILIZANTES PARA APLICAR EM QUALQUER ESPECIE DE ARVORE, POSSIBILITANDO UM TRATAMENTO INDIVIDUALIZADO. AGROQUIMICOS SPRAY DEVICE AND FERTILIZER TO APPLY IN TREE OF ANY KIND, ENABLING AN INDIVIDUALIZED TREATMENT. (MACHINE TRANSLATION)

Abstract: Source: PT107722A ESTA INVENCAO CONSISTE NUM DISPOSITIVO DE PULVERIZACAO QUE SE COLOCA NO INTERIOR DAS ARVORES PARA POSSIBILITAR UM TRATAMENTO INDIVIDUALIZADO, OU SEJA, E POSSIVEL COM ESTE SISTEMA TRATAR APENAS UMA ARVORE, SEM ARRASTAMENTO PARA AS ESPECIES VIZINHAS OU PARA AS AREAS CIRCUNDANTES. ESTE DISPOSITIVO TAMBEM APRESENTA GRANDE UTILIDADE SEMPRE QUE SE PRETENDA TRATAR ARVORES DE DIFICIL ACESSO A UM PULVERIZADOR DE GRANDES DIMENSOES. A PRESENTE INVENCAO CONSISTE NUM CONJUNTO DE BICOS DE PULVERIZACAO (1), INSERIDOS NUM TUBO DE POLIETILENO OU PVC (3) E QUE FORMAM UM SISTEMA DE PULVERIZACAO, COM LIGACAO A OUTRO TUBO DE POLIETILENO OU PVC (6) COM UM DIAMETRO 2 A 4 MM SUPERIOR, QUE FAZ A CONEXAO A UMA MAQUINA DE PULVERIZACAO QUE BOMBEIA A CALDA PARA O SISTEMA. THIS invention in a spray THAT PUTS DEVICE INSIDE OF TREES TO ENABLE AN INDIVIDUALIZED TREATMENT, THAT IS, AND POSSIBLE WITH THIS SYSTEM TO TREAT ONE TREE WITHOUT dragging FOR SPECIES NEIGHBOR OR FOR AREAS SURROUNDING. THIS DEVICE ALSO PRESENTS GREAT UTILITY ALWAYS being treated HARD TO TREES ACCESS TO A BIG SPRAY DIMENSIONS. The present invention is a spray **nozzles** SET (1), INSERTED IN PIPE POLYETHYLENE OR PVC (3) AND FORM A **sprinkler** system connected to the OTHER TUBE POLYETHYLENE OR PVC (6) WITH A DIAMETER 2 4 MM TOP, MAKING CONNECTION TO A spraying machine PUMPING THE SAUCE FOR THE SYSTEM.

Probable Assignee: COSTA MARIA MANUELA OLIVEIRA MARTINS VARELA

Earliest Publication Date: 20151221

68) Family number: 45438901 (BRPI0800039A)

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COMPONENTES PARA JARDINS EDIFICADOS COMPONENTS FOR GARDENS BUILT (MACHINE TRANSLATION)

Abstract: Source: BRPI0800039A 1?t oSoac and n -5 RESUMO "Componentes Para Jardins Edificados" "Componentes Para Jardins Edificados"; sao componentes de concreto pre-moldado montaveis (1, 2, 3, 4, 5, 9, 11, 15,16,17, 19, 20, 24, 25, 29, 31, 32), ou monolitico, fig 1, destinados a Construcao Civil, utilizados para a construcao e montagem de uma edificacao denominada Torre Verde de Teto Inclinado (que permite maior entrada de luz solar), e que se eleva paralelamente a edificacao de um predio residencial comum, formando depois um unico conjunto jardim- apartamento (ver anexos), as quais sao construida para dar suporte a criacao de um solo e subsolo de terra verdadeiro, de grande espessura ou profundidade, que permita o desenvolvimento normal das raizes de uma arvore de medio porte, formando uma cavidade especial com teto inclinado que permite ampla iluminacao solar e arejamento e, portanto, o plantio de qualquer tipo de vegetacao. O Modulo Basico da fig1 e compreendido por varios "Componentes Para Jardins Edificados"; tais como de; 1) Vigas Triangulares (19, 22, 25,26), 2) Cavidades (21, 23) para o plantio de arvores e grama, 3) Tubos de Drenagem (7, 8), Calhas Coletoras (9), Calçadas (24), Subsolo (2,3), Lencol Freatico (5), e outras caixas de agua internas (18) ou externas. Os pisos do Jardim e do Apartamento ficam nivelados no mesmo plano (estando no mesmo andar de um apartamento no 5o andar, por exemplo), permitindo que os moradores dos apartamentos de pisos coincidentes tenham seu proprio jardim particular. Os jardins da Torre Verde, tambem podem ter piscinas de fiberglass, sendo as mesmas sustentadas por pilares proprios (20, 28). Anexo I/I "COMPONENTES PARA JARDINS EDIFICADOS" O texto a seguir descreve rapidamente o teor dos desenhos anexados, permitindo que se tenha melhor nocao da aplicacao do invento, vendo-o dentro do seu contexto. DESENHO DO RELATORIO DESCRITIVO: fig 1. Modelo de um componente Basico da construcao de uma Torre Verde o qual e feito com componentes com o formato basico de 17m x 17 m de superficie por 9 m de altura. DESENHOS DO ANEXO: fig 5. Projeto do Torre Verde do "Frankfurt Tower", na Alemanha, fig 6. Detalhe do mesmo edificio verde ou de outra torre semelhante, fig 7. Casca de Mimetizacao Texturizada ou solida, fig 8. Casca de Mimetizacao Germinativa. fig 9. Edificacao convencional de um predio residencial, fig 10. Edificacao feita so para o plantio de vegetacao para formacao dos jardins elevados ou aereos, fig 11. Conjunto edificio-jardim formado pela uniao das duas torres, fig 12. Vista aerea do componente para jardins edificado basico, fig 13. Componente basico visto em perspectiva. Fig 14. Vista em detalhe do Lencol Freatico. fig 15. Distribuicao e expansao do sistema radicular no subsolo, onde se ve o pleno desenvolvimento de dois tipos de raizes uma do tipo pivotante (que desce), da Andiroba (Carapa guianensis) e outra de formato mais radial e superficial (de uma Palmacea), de varios metros de extensao e profundidade, ambas de duas plantas relativamente altas, que podem crescer e se manter indefinidamente no jardim e subsolo (21) criado. Fig 16. Vista em zoom de dois andares de jardim, onde se pode ver claramente a localizacao e extensao dos subsolos, dos tetos, bem como dos tuneis subterraneos. Fig 17. A figura mostra os andares onde o piso do jardim coincide com o piso de um apartamento. Fig 18. A funcao do teto levantado e so de permitir maior penetracao da luz solar; os angulos de maior penetracao da luz solar ocorre entre os 15 degrees e os 30 degrees (38, 39) o que ocorre entre as 7h e 10h da manha, e de tarde entre as 15h e 18h. As medidas sao da trajetoria aparente do Sol na Regiao Sul do pais (Brasil). Anexo 1/5 120cm escala 1:10 Anexo 2/5 Anexo 3/5 Escala ~ 1:112 Fig 16 4/5 50 40 v-' Fig 17 Anexo 5/5 50,531 escala: ~ 1:400 Fig 18 ? 1 oSoac t and n -5 SUMMARY "For components are built Gardens" "components are built to Gardens "; concrete components are pre-molded mountable (1, 2, 3, 4, 5, 9, 11, 15,16, 17, 19, 20, 24, 25, 29, 31, 32), or monolithic, fig 1, used in the building, used for the construction and installation of a building called Tower Green Inclined Ceiling (which allows greater input sunlight), and that rises alongside the building of a common residential building, after forming a single set garden- apartment (see attachments), which are built to support the creation of a solo and real dirt basement, large thickness or depth, allowing the normal development of the roots of a medium size of tree, creating a special cavity with sloping roof that allows large solar and ventilation lighting and thus the planting of any type of vegetation. The module Basics of fig1 and comprised of several "components are built to Gardens"; such as; 1) Triangular beams (19, 22, 25,26), 2) cavities (21, 23) for planting trees and grass, 3) Drainage Pipes (7, 8), Rain Gutters Collectors (9), sidewalks (24), Underground (2.3), Groundwater (5), and other internal water boxes (18) or external. The floors of the Garden Apartment and sit flush in the same plane (being on the same floor of an apartment on the fifth floor, for example), allowing the residents of matching floor apartment has its own private garden. The gardens of the Green Tower, may also have pools of fiberglass, the same being supported by own pillars (20, 28). Annex I / I "COMPONENTS FOR GARDENS built" The following text briefly describes the content of the attached drawings, allowing them to have a better notion of the application of the invention, seeing it in context. REPORT DESIGN DESCRIPTION: Figure 1. Model of a Basico component of the construction of a Green Tower which and made with components with the basic format of 17m x 17 m surface by 9 m high. ANNEX THE DRAWINGS: Figure 5. Green Tower Project "Frankfurt Tower" in Germany, fig 6. same green building detail or another similar tower, fig 7. mimicking Bark Textured or solid, fig 8. Peel mimicry germ. Figure 9. conventional construction of a residential building, fig 10. building done so for planting vegetation to formation of large gardens and air, fig 11. building garden-set formed by the union of the two towers, fig 12. aerial component View gardens built basic, fig 13. basic component seen in perspective. Figure 14. View in detail Groundwater. Figure 15. Distribution and expansion of the root system underground, where it sees the full development of two types of roots a pivoting type (that goes down), the Andiroba (Carapa guianensis) and other more superficial radial and format (a Palmacea) of several meters in extent and depth, both of two relatively tall plants, which can grow and remain indefinitely in the garden and underground (21) created. Figure 16. View zoom in two-story garden where you can clearly see the localization and extension of basements, ceilings, as well as the subterranean tunnels. Figure 17. The figure shows the floors where the garden level coincides with the floor of an apartment. Figure 18. The function raised the ceiling and so allow greater penetration of sunlight; the **angles** of greater penetration of sunlight occurs between 15 degrees and 30 degrees (38, 39) which occurs between 7am and 10am in the morning and afternoon between 15h and 18h. The measures are the apparent trajectory of the Sun in the South Region of the country (Brazil). Annex 1/5 120cm 1:10 Anexo 2/5 Anexo 3/5 Scale ~ 1: 112 Fig 16 4/5 50 40 v-' Fig 17 Annex 5/5 50.531 scale: ~ 1: 400 Fig 18

Probable Assignee: REFFATTI ADILSON LUIZ BEVILAQU

Earliest Publication Date: 20100608