

Search history

Search 1: FT=(hydroelectric and tower and magnetic and convert) (Results 170)

Search 2: FT=(hydroelectric and magnetic and pump and (structure or tower)) (Results 757)

Search 3: FT=(hydroelectric and magnetic and pump and (structure or tower)) and IC=(f03b) (Results 172)

1) Family number: 47930612 (US2010326062A)

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COMPRESSED AIR ENERGY STORAGE SYSTEM UTILIZING TWO-PHASE FLOW TO FACILITATE HEAT EXCHANGE

Abstract: Source: US2010326062A A compressed-air energy storage system according to embodiments of the present invention comprises a reversible mechanism to compress and expand air, one or more compressed air storage tanks, a control system, one or more heat exchangers, and, in certain embodiments of the invention, a motor-generator. The reversible air compressor-expander uses mechanical power to compress air (when it is acting as a compressor) and converts the energy stored in compressed air to mechanical power (when it is acting as an expander). In certain embodiments, the compressor-expander comprises one or more stages, each stage consisting of pressure vessel (the "pressure cell") partially filled with water or other liquid. In some embodiments, the pressure vessel communicates with one or more cylinder devices to exchange air and liquid with the cylinder chamber(s) thereof. Suitable valving allows air to enter and leave the pressure cell and cylinder device, if present, under electronic control.

Probable Assignee: LIGHTSAIL ENERGY INC**Earliest Publication Date:** 20101230

2) Family number: 30498178 (US2004131479A)

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BUOYANCY PUMP POWER SYSTEM

Abstract: Source: US2004131479A A system and method generating electricity includes converting wave motion into mechanical power. A fluid matter is driven as a function of the mechanical power to a reservoir. The fluid matter is flowed from the reservoir. At least a portion of a kinetic energy of the flowing fluid matter is converted into electrical energy. The fluid matter may be liquid or gas.

Probable Assignee: INDEPENDENT NATURAL RESOURCES INC**Earliest Publication Date:** 20040422

3) Family number: 55588898 (US2014117673A)

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LINEAR FARADAY INDUCTION GENERATOR FOR THE GENERATION OF ELECTRICAL POWER FROM OCEAN WAVE KINETIC ENERGY AND ARRANGEMENTS THEREOF

Abstract: Source: US2014117673A Various embodiments of linear electric generators and arrangements thereof are disclosed. One such generator includes a permanent **magnetic** array with magnets that are oriented such that like poles of the magnets are disposed adjacently to concentrate a **magnetic** field through a coil array. To enhance the **magnetic** field distribution, the magnets are affixed under a compressive strain due to repulsive forces resulting from proximity of the like poles. According to another aspect, a plurality of vibrational linear electric generators (VLEGs) can be arranged so that magnets of different VLEGs are oriented so that poles of opposite polarity are disposed adjacently to further enhance **magnetic** field concentration through coil arrays. In addition, a plurality of wave energy converters can be arranged in very close proximity, at most 8 times a height of a buoyant portion of the converters, to act as a seawall and thereby protect various **structures** from ocean waves.

Probable Assignee: ENERGYSTICS LTD**Earliest Publication Date:** 20140114

4) Family number: 34858210 (US2009160193A)

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BENKATINA HYDROELECTRIC TURBINE

Abstract: Source: US2009160193A New **hydroelectric** turbine devices, systems, and methods, based on recirculation of fluid through at least one turbine, offer the potential for less costly and greater energy output in many applications.

Probable Assignee: FARB DANIEL IL**Earliest Publication Date:** 20070712

5) Family number: 30498177 (US2004195840A)

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MINIATURE HYDRO-POWER GENERATION SYSTEM

Abstract: Source: US2004195840A A miniature hydro-power generation system may produce electric power from a flow of liquid. The miniature hydro-power generation system may include a housing that includes a plurality of paddles positioned to extend outwardly from an outer surface of the housing. The system may also include a nozzle and a centering rod extending through the housing. The housing may rotate around the centering rod when a stream of liquid from the nozzle is directed at the paddles. A generator that includes a rotor and a stator may be positioned within a cavity of the housing. The rotor may be coupled with the housing and the stator may be coupled with the centering rod. The rotor may rotate around the stator at high RPM to generate electric power when the housing rotates. The electric power may supply a load and/or may be stored in an energy storage device.

Probable Assignee: ERCHONIA CORP

Earliest Publication Date: 20010412

6) Family number: 56890567 (US2015198057A)

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HYDRODYNAMIC ENERGY GENERATION SYSTEM WITH ENERGY RECOVERY AND LEVERING SUBSYSTEM

Abstract: Source: US2015198057A The hydrodynamic energy generation system includes a vertically aligned housing comprising a hollow interior and an opening at a top, wherein the housing is at least partially submerged in a body of water, a valve coupled to a top of the housing for regulating an amount of water that enters the opening at the top and falls into the housing, wherein the valve is located under a water line, a water wheel coupled to a generator that produces electrical power when the water wheel is moved by water that falls into the housing, a reservoir located below the water wheel for holding water, a **pump** for removing water from the reservoir, and a water jet for receiving water from the **pump** and jettisoning water towards the water wheel, so as to move the water wheel and cause the generator to produce electrical power.

Probable Assignee: IBRAHIM HANNA

Earliest Publication Date: 20150609

7) Family number: 30545299 (US2005120715A)

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HEAT ENERGY RECAPTURE AND RECYCLE AND ITS NEW APPLICATIONS

Abstract: Source: US2005120715A What has been created is a plurality and a variety of processes and a variety of devices correspondingly supportive to each process, wherein, a new partnership between; (1) a heat absorbing radiator compressed air pipes/tubes and (2) a gas turbine engine or a reciprocating piston engine,-is used to recapture and reconvert the, otherwise wasted, heat energies expelled by engines, by factories, by smelting plants, by distillation plants, by chillers/coolers/freezers, by cooking ovens, by lamps/stoves, by trash burners, and the heat energies created by the solar heat on the desert/ocean water,-into electric power and finally into hydrogen-deuterium fuel,-by having the engine's tailpipes submerged in cold compressed air inside the heat absorbing radiator pipes in reverse air flow, to further drive and re-drive the same engine; wherein, in order to capture fusion heat energy the hydrogen bomb is detonated in the deep ocean to catch the flames by the water and the hot water is used to energize the compressed air inside the heat absorbing radiator pipes; wherein, in order to produce fusion energy, an abundant electric arc is passed across liquid deuterium or across gaseous deuterium by the electro-plasma torch and sparkplug in the internal combustion engine, and by detonating a dynamite inside a liquid deuterium; wherein diamond is produced by placing carbon inside the hydrogen bomb; and wherein, deuterium fusion flame is used first in smelting glass to large sizes before running an engine.

Probable Assignee: CHRISTIAN SCHOOL OF TECHNOLOGY CHARITABLE FOUNDATION TRUST

Earliest Publication Date: 19880712

8) Family number: 29418804 (US2003201644A)

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ALL-WEATHER ENERGY AND WATER PRODUCTION VIA STEAM-ENHANCED VORTEX TOWER

Abstract: Source: US2003201644A Complex of additional or modified process steps and correspondent new or modified designs of units of steam-enhanced vortex electric station is described as continuation-in-part application out of parent application "All-Weather Energy and Water Production via Steam-Enhanced Vortex **Tower**", Kaploun S., Ser. No. 10/133,488, Filing Date Apr. 29, 2002, said complex makes said kind of station available for stable long operation in majority of the climatic zones and power loading regimes, including regions with winter negative temperatures during the calm or insufficient winds and/or low loads, said complex comprises: heat accumulation/release water-steam-air system using excessive solar, geothermal or/and waste low-temperature heat; large-rating three-phase vortex electric generator with hollow flow-through drum rotated by inside upward column vortex airflow; adjusted to said conditions modifications of voltage inducing **magnetic** concentrators used in described before [9] magneto-vortex electric generator

Probable Assignee: KAPLOUN SOLOMON

Earliest Publication Date: 20031030

9) Family number: 43153837 (US2010207391A)

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SMALL WAVE TURBINE SYSTEM CONFIGURATIONS

Abstract: Source: US2010207391A Extracting energy from waves, even large ones, is a challenge. The current application describes adjustments to wave turbine systems that work with small waves especially well. Configuring the waves, blades, and generators as part of the system is the subject of the current application.

Probable Assignee: LEVIATHAN ENERGY LLC

Earliest Publication Date: 20090416

10) Family number: 47719668 (US2012068464A)

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HYDROELECTRIC IN-PIPE TURBINE BLADES

Abstract: Source: US2012068464A The special circumstances of working with **hydroelectric** turbines in pipes require innovations in blade shapes and systems that are presented here. An example is streamlining of the blades greater than that found in traditional **hydroelectric** turbines.

Probable Assignee: LEVIATHAN WIND ENERGIZER LLC

Earliest Publication Date: 20101202

11) Family number: 40893139 (US2007278796A)

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SYSTEM FOR GENERATING ELECTRICITY FROM FLUID CURRENTS

Abstract: Source: US2007278796A A system for generating electricity from fluid currents having one or more trolleys that move along a closed-loop track as a result of the action of fluid currents on one or more blades attached to each trolley. Spacing between trolleys is preferably maintained by a spacing ring to which the trolleys are attached. Optionally, one or more blades made be attached to the spacing ring. The trolleys are supported and guided either by wheels or **magnetic** levitation. Electrical energy is preferably created by the movement of magnets in an electrical ring attached to the trolleys with respect to a conductor connected to the track.

Probable Assignee: OCEANA ENERGY CO

Earliest Publication Date: 20071206

12) Family number: 64816300 (US2017033381A)

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RESOURCE **TOWER**

Abstract: Source: US2017033381A Invented is a Resource **Tower** that uses water electrolysis to separate out its elemental and purified H2 hydrogen gas and O2 oxygen gas. These gases form a pressurized flow for electricity generation for distribution and transport to heights atop the Resource **Tower**. Core advancements of this invention are the use of fuel cells at the top of the Resource **Tower** to electrochemically combine hydrogen gas and oxygen gas to produce electricity, heat, and water. The Resource **Tower** distributes the electricity, converts heat and water to steam to generate additional electricity for distribution, and ultimately coalesces the steam back to water at a height. The water that falls under acceleration of gravity from atop the Resource **Tower** is used to generate additional electricity for distribution. In addition to multiple sites of electricity generation for distribution, the purity of hydrogen gas and oxygen gas from water electrolysis is retained and the water resulting from the Resource **Tower** is purified and potable for distribution.

Probable Assignee: REILLY THOMAS MICHAEL

Earliest Publication Date: 20170202

13) Family number: 46170441 (US2010181771A)

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INTEGRATED **HYDROELECTRIC** POWER-GENERATING SYSTEM AND ENERGY STORAGE DEVICE

Abstract: Source: US2010181771A A **hydroelectric** power-generating apparatus comprising: (1) a fluid inlet, (2) a diffuser having (a) at least one vane supporting a diffuser hub and (b) a rotor rotatably supported by the diffuser hub and having (i) impeller blades, (ii) an impeller hub, and (iii) a shroud at the periphery of the rotor, the shroud including at least one magnet, and (3) a housing surrounding the shroud and having a rigidly-attached stator including laminations and at least one electrical coil, whereby a flow of fluid through the diffuser and rotor causes the rotation of the rotor and the at least one magnet induces an electric current in the at least one coil.

Probable Assignee: AMERICAN HYDRO JET CORP

Earliest Publication Date: 20100722

14) Family number: 56896123 (US2014196953A)

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DRILLING APPARATUS

Abstract: Source: US2014196953A A drilling apparatus comprised of a multiplicity of subassemblies for drilling an open-hole extension from within an existing cased borehole located in a geological formation for the production of oil and gas. In one embodiment, one subassembly includes a motor located within a cased section of the borehole that rotates a drill pipe segment attached to a rotary drill bit in the open-hole to drill the open-hole extension of the well. In another embodiment, a shroud encloses the motor located within the cased portion of the well that is used to control the mud flow to and from the bit in the open-hole during the drilling process.

Probable Assignee: SMART DRILLING AND COMPLETION INC

Earliest Publication Date: 20140717

15) Family number: 31393709 (US2004250537A)

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MACHINE AND SYSTEM FOR POWER GENERATION THROUGH MOVEMENT OF WATER

Abstract: Source: US2004250537A A machine and system for power generation through movement of water having an array of power generating cells electrically interconnected, where the array is configured in an interchangeable modular fashion and the cells are positioned to receive kinetic energy from the movement of water to generate electricity through the movement of an electrical turbine within each cell. The individual turbines and cells may generate relatively small amounts of electricity and use polymer **magnetics** in the impellers and windings in the turbine to withstand ocean environments and are stacked on electrically conductive trays for ease of installation and replacement.

Probable Assignee: HYDRO GREEN ENERGY LLC

Earliest Publication Date: 20041216

16) Family number: 31883219 (US2005099010A)

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WAVE ENERGY CONVERSION SYSTEM

Abstract: Source: US2005099010A A wave energy conversion system converts wave energy within a wave medium into electrical energy. The wave energy conversion system includes a base substantially connected to a wave-medium floor, a tidal platform connected to said base and a tidal float connected to said tidal platform. An axle is connected to said tidal platform with an inductive coil positioned within the axle, such that an axis of the inductive coil is parallel to the axle. A **magnetic** sleeve includes a **magnetic** sleeve opening, such that the axle passes through the **magnetic** sleeve opening. A float member is connected to said **magnetic** sleeve. A wave moving through the wave causes displacement of the float member, causing the **magnetic** sleeve to move relative to the inductive coil and generate electrical energy within the inductive coil.

Probable Assignee: HIRSCH WILLIAM W

Earliest Publication Date: 20050512

17) Family number: 44323222 (US2010026003A)

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PLIANT MECHANISMS FOR EXTRACTING POWER FROM MOVING FLUID

Abstract: Source: US2010026003A Flexible and elastic mechanisms for extracting power from a moving fluid. Sheet-like material is deformed during fabrication through an applied force so as to create undulations in said material, whose stresses are maintained through restraining components, thereby maintaining the occurrence of said deformations in the material. When placed in moving fluid, the resulting pressure differentials cause the positions of the undulations within the material to travel along said material in the same direction as the moving fluid. Power is extracted in one of two principle ways. The first is via a mechanical coupling of the sheet-like material to a rotating mechanism, which turns an electro-**magnetic** dynamo or other output device. The second is via the utilization of a flexible material which exhibits an electrical response to mechanical strain, whereby the strains caused by the travel of undulations along the material create an electrical current which is extracted via two or more electrodes.

Probable Assignee: PLIANT ENERGY SYSTEMS LLC

Earliest Publication Date: 20100204

18) Family number: 48202366 (US2012115662A)

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SYSTEM AND METHOD FOR PROVIDING A CONSTANT OUTPUT FROM A VARIABLE FLOW INPUT

Abstract: Source: US2012115662A A system and method for providing a constant output from a variable flow input comprises a liquid flow energy input, for example, air or water for driving a constant speed generator. An inner and outer cam assembly is controlled by a control input to achieve varying eccentricity and control the output speed at an output shaft to be constant despite a varying rotational velocity input at an input shaft. A feedback control may be provided between one of the input shaft and the output shaft and the inner and outer cam assembly to maintain constant output by varying the eccentricity. The constant output may drive a constant speed generator having an infinitely variable torque generator. In this manner, a power grid may be provided with constant frequency alternating current at, for example, 50 Hz (Europe) or 60 Hz (USA). Also, a pair of non-circular gears, for example, a square gear and a cloverleaf gear may be used to reduce ripples in rotational velocity measured at the output shaft for a four OWCB constant output, variable flow input system.

Probable Assignee: DIFFERENTIAL DYNAMICS CORP

Earliest Publication Date: 20110127

19) Family number: 59879661 (US2015204301A)

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SYSTEMS AND METHODS FOR **HYDROELECTRIC** SYSTEMS

Abstract: Source: US2015204301A Embodiments of a **hydroelectric** system for a low head dam can include a module including a protective housing, a turbine housing retained within the protective housing, the turbine housing including an upper inlet portion at a first end, a substantially tubular portion, and a lower outlet portion at a second end, the upper inlet portion being positioned above the lower outlet portion, a turbine retained at least partially within the turbine housing, the turbine including a plurality of blades coupled with a central shaft, and a fluid **pump**, the fluid **pump** being coupled with the central shaft, where the fluid **pump** is configured to **pump** a high pressure fluid, a fluid circuit, the fluid circuit including piping, where the high pressure fluid is retained within the piping, and a shoreline generator, the shoreline generator being coupled with the fluid circuit, where the offsite generator is driven by the high pressure fluid that is **pumped** by the fluid **pump** in response to the rotation of the turbine.

Probable Assignee: DAYTON HYDRO ELECTRIC LTD D B A KW RIVER HYDROELECTRIC

Earliest Publication Date: 20150723

20) Family number: 62989418 (US2016215753A)

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MASS LEVITATOR WITH ENERGY CONVERSION

Abstract: Source: US2016215753A The various embodiments disclosed herein provide a generalized system for extracting gravitational energy from the planet and provide for a general, pollution free, mass lifting and energy conversion system in which the laws of fluid flow, and in particular buoyancy and gravity are utilized to lift an arbitrary mass to a higher gravitational potential energy, where upon the increased potential energy can be converted to other forms of energy. Novel and non-obvious features of the fluid interface device, used to insert the buoyant object into the buoyant fluid, insure that the insertion energy is less than the potential energy gained by the object. The net increase in potential energy can be converted to other forms of energy such as electrical power or mechanical energy. It is shown in that energy gain is effectively extracted from the gravitational field of the planet without breaking the laws of conservation of energy.

Probable Assignee: WESTMORELAND DOUG

Earliest Publication Date: 20160728

21) Family number: 46170524 (US2010181777A)

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WIND TURBINE GENERATOR AND MOTOR

Abstract: Source: US2010181777A A wind turbine includes a quartet of pivot shafts that are in paired parallel relationship and transversely mounted on a central drive shaft. each pivot shaft supports a pair of wings at opposed ends thereof, the wings offset by 90 degrees. Each pivot shaft rotates cyclically through 90 degrees to move each wing from a wind-engaging orientation (drive position) in which the wing presents a flat surface approximately transverse to the incident wind, to a minimum drag position (glide position). In addition, the two wings of each pair on a shaft are disposed in planes that are offset by approximately 90 degrees about their pivot shaft, so that one is in the drive position while the other is in the glide position. The wings of each pair of pivot shafts have wings at the ends thereof that open into the drive position at the same time and rotational angle of the turbine. A backstop at the site of each drive position supports the wind load and transfers its force to the central drive shaft.

Probable Assignee: GRIGG CHARLES

Earliest Publication Date: 20100722

22) Family number: 48238851 (WO11011844A1)

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HYDROELECTRIC POWER STATION WITH WATER RE-USE

Abstract: This patent application relates to a **hydroelectric** power station with water re-use, pertaining to the electricity field, solving problems found in prior art thermal, atomic and **hydroelectric** power stations, mounted in an alternative power house **structure** and on an alternative platform **structure**, comprising a hydraulic turbine (10) coupled to an electric generator (60), a pressure **pump** (42) with an electric motor (63) mounted inside the alternative power house **structure**, and an electric generator (75) with an internal combustion engine (78), an electric control panel (90) and an electric grid post or **tower** (121) mounted on the alternative platform **structure**. The **hydroelectric** power station (1) with water re-use is moved by using and re-using water taken from and returned to a natural water resource, such as a well, tank, pool, cistern, reservoir, water dam, lake, pond, lagoon, river, sea or ocean on the Earth globe, using the power of the pressure **pump** (42) to move the water, which in turn moves the hydraulic turbine (10) and the electric generator (60), forming a water stream at the outlet of the hydraulic turbine, the water being returned to the bottom of the natural water resource, while the water stream is re-used to generate electric energy for consumption by the power station, the population and economic activities, using water as a renewable, natural energy source.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110203

23) Family number: 51293197 (BRMU8901581U)

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USINA HIDRELETRICA SUBMERSA BLINDADA HYDROELECTRIC SUBMERGED ARMORED (MACHINE TRANSLATION)

Abstract: Source: BRMU8901581U USINA HIDRELETRICA SUBMERSA BLINDADA pertencente ao setor eletrico resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, compreendida por usina hidreletrica instalada de forma submersa na agua de recurso hidrico de poco, tanque, caixa, piscina, cisterna, deposito, reservatorio, acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a usina hidreletrica (1) compreendida por turbina hidraulica (10) com gerador eletrico submerso blindado (60) e bomba (42) de recalque com motor eletrico submerso blindado (63), instalados de forma submersa na agua do recurso hidrico, e gerador eletrico (75) com motor a explosao (78), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica instalados na variante construtiva de plataforma, sendo a usina hidreletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico, usando a forca da bomba (42) de recalque para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua devolvida no fundo do recurso hidrico, sendo a corrente de agua reaproveitada para mover a turbina hidraulica e sendo a agua reutilizada para gerar energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas.

Machine translation: DAM SUBMERGED PLANT ARMORED belonging to the electric industry by solving problems of thermal, **hydroelectric** and atomic state of the technique, comprised of **hydroelectric** power plant installed so submerged in the water resource under-served water tank, box, pool, tank, deposit, reservoir, dam, dam, lake, pond, river, sea and ocean of the globe, with the **hydroelectric** power plant (1) comprised of hydraulic turbine (10) with underwater shielded electric generator (60) and **pump** (42) of repression with blindado submerged electric motor (63), installed as submerged in water of water resources and electric generator (75) with engine explosion (78), electrical control panel (90) and pole or **tower** (121) network installed in the electrical embodiment of the platform, and the **hydroelectric** power plant (1) moved to use and reuse of water captured and returned at the bottom of the water resource, using the force of the **pump** (42) of repression to create water movement that moves the hydraulic turbine (10) and electric generator (60), forming the current of water returned to the bottom of the water resource, and the current recycled water to move the hydraulic turbine and the water is reused to generate electric power looms for own consumption of the plant and populations and economic activities.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20120605

24) Family number: 53082504 (US2013098035A)

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SYSTEMS AND METHODS FOR PROVIDING SUPPLEMENTAL AQUEOUS THERMAL ENERGY

Abstract: Source: US2013098035A Systems and methods for collecting, storing, and conveying aqueous thermal energy are disclosed. In a particular embodiment, a floating film retains solar energy in a volume of water located under the film. A series of curtains hanging from a bottom surface of the film define a passage between a periphery of the film and a center of the film to direct the heated water at the center of the film. The heated water is circulated to deliver the heat to a dissociation reactor and/or donor substance. The donor is conveyed to the reactor and dissociated.

Probable Assignee: ADVANCED GREEN INNOVATIONS LLC

Earliest Publication Date: 20130221

25) Family number: 46624681 (US2010212316A)

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THERMODYNAMIC POWER GENERATION SYSTEM

Abstract: Source: US2010212316A A power generation system that includes a heat source loop that supplies heat to a turbine loop. The heat can be waste heat from a steam turbine, industrial process or refrigeration or air-conditioning system, solar heat collectors or geothermal sources. The heat source loop may also include a heat storage medium to allow continuous operation even when the source of heat is intermittent. In the turbine loop a working fluid is boiled, injected into the turbine, recovered condensed and recycled. The power generation system further includes a heat reclaiming loop having a fluid that extracts heat from the turbine loop. The fluid of the heat reclaiming loop is then raised to a higher temperature and then placed in heat exchange relationship with the working fluid of the turbine loop. The turbine includes one or more blades mounted on a rotating member. The turbine also includes one or more nozzles capable of introducing the gaseous working fluid, at a very shallow angle on to the surface of the blade or blades at a very high velocity. The pressure differential between the upstream and downstream surfaces of the blade as well as the change in direction of the high velocity hot gas flow create a combined force to impart rotation to the rotary member.

Probable Assignee: THERMAL POWER TECHNOLOGY LLC

Earliest Publication Date: 20100826

26) Family number: 53202748 (US2014196456A)

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STORAGE ENERGY GENERATION METHOD UTILIZING NATURAL ENERGY AND GENERATION SYSTEM THEREOF

Abstract: Source: US2014196456A A storage energy generation method utilizing natural energy and a generation system thereof generates electricity through natural energy such as wind power or solar energy and then compresses air, or directly compresses air, then generates electricity to an electric grid through the compressed air which is deemed as a power resource. An electric station utilizing integrated energy generates electricity to drive an air compression device, further then produces compressed air as an energy storage medium and stores compressed air in an air storage device, and then regards the compressed air as a main or auxiliary driving energy to other electric stations, such that a function of stabilizing and adjusting peak load can be realized.

Probable Assignee: BEIJING XIANGTIAN HUACHUANG AERODYNAMIC FORCE TECHNOLOGY RESEARCH INST CO LTD

Earliest Publication Date: 20130321

27) Family number: 45867886 (US2013341934A)

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HYBRID POWER GENERATOR COUPLED TO GRAVITY POWER GENERATOR USING BALANCE WHICH HAS PRESSURE LOAD DEVICE

Abstract: Source: US2013341934A There is provided a hybrid power generating system for hydraulic power, thermal power (nuclear power) turbines, geothermal, an engine room of a ship, wind power, solar power, a train (high-speed underground electric railway). The system of the present invention for existing hydraulic power, thermal power (nuclear power) turbines, geothermal, an engine room of a ship, wind power, solar power, a train (high-speed underground electric railway), a factory or the like is installed in a space for a power generator in sites of primary, secondary, tertiary substations. A torque converter automatic transmission which serves as a coupling clutch is coupled with a rotating shaft of a motor of the above, a cylinder of pressure load equipment working with a weight, water pressure, oil pressure, air pressure or the like which is suitable for potential energy serving as output is provided on each end of a load balance, a power which is increased according to a ratio of balances is transmitted to cylinders of a reciprocating balance at a fulcrum position, the increased power is input by a crank and combined in the power generator, and thereby output is increased.

Probable Assignee: KAWANISHI EIJI

Earliest Publication Date: 20100616

28) Family number: 65075798 (US2017058858A)

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MAGNAFLOAT DEVICE GENERATING CLEAN ELECTRICITY BY USING GRAVITY, BUOYANCY, SPEED MANIPULATION PROCEDURES AND BY PASSING MAGNETS THROUGH INDUCTORS

Abstract: Source: US2017058858A The MagnaFloat, an energy generation device using gravity, buoyancy, pressure differentials, speed controls and linear motors to control the movement of buoyant canisters over and through a series of open, non-restricted pathways. Each canister has a magnet inside. While moving downward through Air (Drop Phase), ascending through Fluid (Floatation-ascent Phase), and upward through Air, these magnet-canisters pass through permanently attached inductors and electricity is produced. At conclusion of Floatation-ascent Phase, canisters exit Fluid and continue moving upward through Air into Pivot Bucket; Pivot Bucket is then rotated and canisters are ejected onto Inclined Platform. At bottom of overall device Passive Roller System changes direction of travel for canisters from downward vertical motion to horizontal motion, then later to upward vertical motion. While traveling horizontally, kinetic energy is extracted from fast moving canisters by acquiring and storing increased hydraulic pressure, which is converted into electricity.

Probable Assignee: MOOSE ROBERT DAVID

Earliest Publication Date: 20170302

29) Family number: 50499885 (AU2011213774A)

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BUOYANCY PUMP POWER SYSTEM

Abstract: Source: AU2011213774A A system for generating electricity includes a pump operable to convert wave motion from a body of water into mechanical energy. The pump includes an input port through which an operating fluid can enter the pump and an output port 5 through which the operating fluid can exit the pump. A first outlet line and a second outlet line are fluidly coupled to the output port of the pump. A first reservoir is fluidly connected to the first outlet line, and a second reservoir is fluidly connected to the second outlet line, both reservoirs being selectively capable of receiving operating fluid driven through the output port.

Probable Assignee: INDEPENDENT NATURAL RESOURCES INC

Earliest Publication Date: 20110908

GRUPO GERADOR HIDRELETRICO DE BARCO OU NAVIO SUBMARINO**HIDROELECTRIC GENERATING GROUP OF BOAT OR SUBMARINE SHIP (MACHINE TRANSLATION)**

Abstract: Source: BRMU8901357U 1 Mu percent <\oisi'3 RESUMO "GUPO GERADOR HIDRELETRICO DE BARCO OU NAVIO SUBMARINO" pertencente ao setor naval e setor eletrico, resolvendo problemas de propulsao de barcos ou navios submarino do estado da 5 tecnica, compreendido por grupo gerador hidreletrico (1) instalado dentro do casco (361) do barco ou navio submarino (360) de navegacao submersa nas aguas de recurso hidrico de acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo o grupo gerador hidreletrico (1) compreendido por turbina hidraulica (10) com gerador eletrico (60), io bomba (42) de recalque com motor eletrico (63), gerador eletrico (75) com motor a explosao (78) e quadro de comando eletrico (90), sendo o grupo gerador hidreletrico (1) movido com utilizacao e reutilizacao da agua captada e devolvida no recurso hidrico por onde navega submergido o barco ou navio submarino (360), usando a forza da bomba (42) de recalque 15 e do deslocamento do barco ou navio submarino (360) para criar um movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua na tubulacao de saida da turbina hidraulica, sendo a agua devolvida no recurso hidrico, sendo a agua novamente reutilizada, gerando energia eletrica para autoconsumo do 20 grupo gerador hidreletrico (1) movendo o motor eletrico (63) da bomba (42) de recalque e para o consumo do motor eletrico (373) de propulsao do barco ou navio submarino (360), tendo a agua como fontes de recursos naturais reutilizaveis de energia. 1 Mu percent and It; \ oisi'3 SUMMARY "Gupo GENERATOR **hydroelectric** BOAT OR SHIP SUBMARINE" belonging to the naval industry and electric industry, solving problems propulsion boats or 5 technical state of submarine vessels, comprised of **hydroelectric** generator set (1) installed inside the hull (361) boat or submarine ship (360) submerged navigation on the water resources of waters weir, dam, dam, lake, pond, river, sea and ocean of the globe, and the **hydroelectric** generator (1) comprised of turbine hydraulic (10) with electric generator (60), io **pump** (42) settlement with electric motor (63), electric generator (75) with motor explosion (78) and electrical control cabinet (90), the **hydroelectric** generator (1) driven with use and reuse of water collected and returned at the water resource through which navigates submerged boat or submarine vessel (360), using the force of the **pump** (42) booster 15 and displacement boat or submarine vessel (360) to create a water movement that drives the hydraulic turbine (10) and electric generator (60), forming water flow in the pipe exit of the hydraulic turbine, and the water returned to water resources, and the water again reused, generating electric energy for self consumption of 20 group **hydroelectric** generator (1) by moving the electric motor (63) of the **pump** (42) settlement and the electric motor of consumption (373) of propulsion boat or submarine ship (360), having the water as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

GRUPO GERADOR HIDRELETRICO DE TREM**GENSET **HYDROELECTRIC** TRAIN (MACHINE TRANSLATION)**

Abstract: Source: BRMU8901696U GRUPO GERADOR HIDRELETRICO DE TREM. Pertencente ao setor naval e setor eletrico, resolvendo problemas de propulsao de trens do estado da tecnica, sendo o grupo gerador hidreletrico (1) de trem (460) compreendido por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63), gerador eletrico (75) com motor a explosao (78) e quadro de comando eletrico (90), conjugado com um deposito de agua (400) instalado sobre o vagao (462) do trem (460), sendo o grupo gerador hidreletrico (1) movido com utilizacao e reutilizacao da agua captada e devolvida no fundo de deposito de agua (400), usando a forza da bomba (42) de recalque, para criar um movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua na tubulacao de saida da turbina hidraulica, sendo a agua devolvida no fundo de deposito de agua (400) e sendo a agua novamente reutilizada, gerando energia eletrica para autoconsumo do grupo gerador hidreletrico (1) e consumo do motor eletrico (464) que move o trem (460), utilizando a agua como fontes de recursos naturais reutilizaveis de energia.

Machine translation: GROUP TRAIN **hydroelectric** generator. Belonging to the marine industry and electric industry, solving problems propulsion trains in the state of technique, with the **hydroelectric** generator (1) train (460) comprised of hydraulic turbine (10) electric generator (60) and **pump** (42) settlement with the electric motor (63), electric generator (75) with engine explosion (78) and electrical control panel (90), together with a deposit of water (400) installed on the wagon (462) train (460), with the **hydroelectric** generator (1) moved with using and reusing water captured and returned to the water deposit fund (400), using the force of the **pump** (42) of repression, to create a movement of water that moves hydraulic turbine (10) and electric generator (60), forming the flow of water outlet pipe of the hydraulic turbine, the water being returned in the bottom deposit water (400) and the water being reused again, generating electrical energy for the self **hydroelectric** generator (1) and consumption of the electric motor (464) that moves the train (460), using water as a source of reusable energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20120724

USINA HIDRELETRICA MOVEL COM DEPOSITO ELEVADO DE AGUA****HYDROELECTRIC** MOBILE DEPOSIT WITH HIGH WATER (MACHINE TRANSLATION)**

Abstract: Source: BRMU8901695U pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomaticas e hidreletricas do estado da tecnica, sendo a usina hidreletrica movel (1) conjugada com deposito elevado de agua (420) e instalada em carreta (480) sobre rodas (481), sendo a usina hidreletrica movel (1) compreendida por uma turbina hidraulica (10) com gerador eletrico (60) acoplado, uma bomba (42) de recalque com motor eletrico (63), um gerador eletrico (75) com motor a explosao (78), um quadro de comando eletrico (90) e um poste ou torre (121) de rede eletrica, sendo o deposito elevado de agua (420) compreendido por um piso do fundo (422), parede cilindrica lateral (425) e teto (426), sendo a usina hidreletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo do deposito elevado de agua (420) de agua, usando a forza da bomba (42) de recalque para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua como fontes de recursos naturais reutilizaveis de energia. Belonging to the electric sector, solving thermal, **hydroelectric** and atomic state of the technique, with the mobile **hydroelectric** power plant (1) coupled with high water deposit (420) and installed trailer (480) on wheels (481), the mobile **hydroelectric** power plant (1) comprised of a hydraulic turbine (10) with electric generator (60) coupled a **pump** (42) Discharge with electric motor (63), an electric generator (75) with engine explosion (78), an electric control box (90) and a pole or **tower** (121) the power grid, and the high water deposit (420) comprised of a floor to the bottom (422), cylindrical side wall (425) and ceiling (426), and the **hydroelectric** power plant (1) moved with use and reuse of water collected and returned at the bottom of the high water deposit (420) water, using the force of the **pump** (42) Discharge to create movement water that moves the hydraulic turbine (10) and electric generator (60), generating electric energy for own consumption and the plant populations and economic activities, use of water as reusable sources of natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20131217

33) Family number: 55476984 (BRMU8901628U)

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GRUPO GERADOR HIDRELETRICO DE CAMINHAO GENERATOR GROUP OF TRUCK HYDROPOWER (MACHINE TRANSLATION)

Abstract: Source: BRMU8901628U GUPO GERADOR HIDRELETRICO DE CAMINHAO pertencente ao setor eletrico, resolvendo problemas de propulsao de caminhoes do estado da tecnica, compreendido por grupo gerador hidreletrico (1) instalado sobre a carroceria (442) do caminhao (440), sendo o grupo gerador hidreletrico (1) compreendido por uma ttrrbina hidraulica (10) com gerador eletrico (60) acoplado, uma bomba (42) de recalque com motor eletrico (63), um gerador eletrico (75) com motor a explosao (78), um quadro de comando eletrico (90) e um deposito de agua (380), instalado sobre a carroceria (442) do caminhao (440), sendo o grupo gerador hidreletrico (1) movido com utilizacao e reutilizacao da agua captada e devolvida no fundo de deposito de agua (380), usando a forca da bomba (42) de recalque para criar um movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua na tubulacao de saida da turbina hidraulica, sendo a agua devolvida no fundo do deposito de agua (380) e sendo a agua novamente reutilizada, gerando energia eletrica para autoconsumo do grupo gerador hidreletrico (1) e consumo do motor eletrico (440) que move o caminhao (440), utilizando a agua como fontes de recursos naturais reutilizaveis de energia. Gupo **Hydroelectric** Generator truck belonging to the electric sector, solving problems of propulsion of trucks in the art, comprised of **hydroelectric** generator (1) installed on the body (442) of the truck (440), with the generator Hydropower (1) comprised of a hydraulic ttrrbina (10) with electric generator (60) coupled a **pump** (42) Discharge with electric motor (63), an electric generator (75) with a combustion engine (78), a framework of electric charge (90), and a water deposit (380), installed on the body (442) of the truck (440), with the **hydroelectric** generator grupo (1) moved with use and reuse of water captured and returned the deposit of ftindo water (380), using the force of the **pump** (42) Discharge to create a movement of water that moves the hydraulic turbine (10) and electric generator (60), forming stream of water in the outlet pipe of the hydraulic turbine, with eagle returned to the bottom of the water tank (380) and again being reused water, generating electric energy for self hydropower generator (1) and consumption of the electric motor (440) what moves you move the truck (440), using a reusable water as sources of natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20131217

34) Family number: 43060709 (US2010276935A)

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RENEWABLE ENERGY FLUID **PUMP** TO FLUID-BASED ENERGY GENERATION

Abstract: Source: US2010276935A A wind or water turbine mounted atop a support **tower** or tethered underwater drives a hydro-**pumping** system. The turbine converts wind or water energy into a driving torque applied to the hydro-**pump**. The hydro-**pump** forces water through a pipe transmission system to an onshore facility. On shore, the resultant pressurized fluid-flow propels a **hydroelectric** generating system to produce electricity or may first be used in a Reverse Osmosis desalinization process and the byproduct in part used to propel a **hydroelectric** generating system to produce electricity. The cold-water discharge from the **hydroelectric** generating system and/or from the desalinization process is used for onshore district or power plant cooling purposes.

Probable Assignee: DEHLSSEN ASSOCIATES LLC

Earliest Publication Date: 20090326

35) Family number: 42230452 (US2008238105A)

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FLUID DRIVEN ELECTRIC POWER GENERATION SYSTEM

Abstract: Source: US2008238105A A tubular housing includes at least one fixed helical vane formed onto the inner surfaces of the tubular housing in a spiral and adapted to direct fluid into a spiraled flow and focus fluid onto a fan blade assembly associated with an alternator system and located within the tubular housing before a system exhaust. A generator cone can be mounted near the center and front of the fan blade assembly facing fluid passing through the tubular housing. As fluid passes over the generator cone it experiences compression between the generator cone and housing resulting in increased pressure and velocity of the fluid, thereby increasing rotational speed of the generator blades and generator as the compressed, spiraled fluid passes through the blades and exits the tubular housing. The system can be used for fixed or mobile applications in water, wind and manually induced air flow.

Probable Assignee: MDL ENTERPRISES LLC

Earliest Publication Date: 20081002

36) Family number: 40790029 (US2007257492A)

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SUBMERSIBLE ELECTRICAL POWER GENERATING PLANT

Abstract: Source: US2007257492A A self-supporting, submersible generating plant for producing electricity from ocean currents, consisting of two counter-rotating, rear-facing turbines with a plurality of rotor blades extending radially outward from two separate horizontal axis that convey the kinetic energy from the two side-by-side, counter-rotating turbine rotors through separate gearboxes to separate generators that are housed in two watertight nacelles that are located sufficiently far apart to provide clearance for the turbine rotors. The two generators and their gearboxes serve as ballast and are located far below a streamlined buoyancy tank that extends fore and aft above and between them. A combination of a leverage system and a pressure-controlled system adjusts the hydrodynamic lifting forces to maintain constant depths. There are systems to purge the ballast water to facilitate the recovery of both individual submersible power plants and a group of many submersible power plants.

Probable Assignee: ROBSON JOHN H

Earliest Publication Date: 20071106

37) Family number: 64166200 (WO16187659A1)

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A **HYDROELECTRIC** GENERATION SYSTEM AND A METHOD FOR **HYDROELECTRIC** GENERATION

Abstract: A **hydroelectric** generation system (1) including a formation, in the form a manmade dam (2) having a dam wall (3), for containing a body of water (4). A first outlet (5) is disposed in the base of wall (3) at an effective elevation (E1) for receiving a first flow (6) of water from the body of water (4). A **hydroelectric** generation unit (8) is disposed at a second elevation (E2) that is lower than elevation (E1) and is driven by flow (6) for supplying first electrical energy (9) to transmission lines (10). A PV electrical power generation unit, in the form of a plurality of floating PV arrays (13, 14 and 15), supplies second electrical energy (16) via transmission lines (17). Distribution infrastructure, in the form of a transformer and switching yard (20), transmits energy (9 and 16) via transmission lines (21) to an electrical distribution network in the form of a public electricity distribution grid (22). A controller (23) regulates the transmission of energy (9 and 16) by controlling the switching within yard (20).

Probable Assignee: MC2 ENERGY PTY LTD

Earliest Publication Date: 20161201

38) Family number: 33547304 (US2006237972A)

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HOLLOW GENERATOR

Abstract: Source: US2006237972A Lacking a physical axis of rotation, this all-in-one electric generator/turbine requires less kinetic energy, substantially fewer parts, and less space in the power plant than do traditional designs. This is achieved by attaching the generator's magnets directly to the outer surface of the Hollow Turbine's rotating cylinder. Rotating **magnetic** fields generate current in adjacent stationary coils of an electric conductor. The design eliminates the need for a separate rotor and related shaft, as found in standard electric generator designs.

Probable Assignee: LI RONGSHAN

Earliest Publication Date: 20061026

39) Family number: 61140305 (WO15187910A2)

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MAGNAFLOAT DEVICE GENERATING CLEAN ELECTRICITY BY USING GRAVITY, BUOYANCY, SPEED MANIPULATION PROCEDURES AND BY PASSING MAGNETS THROUGH INDUCTORS

Abstract: The MagnaFloat, an energy generation device using gravity, buoyancy, pressure differentials, speed controls and linear motors to control the movement of buoyant canisters over and through a series of open, non-restricted pathways. Each canister has a magnet inside. While moving downward through Air (Drop Phase), ascending through Fluid (Floatation-ascent Phase), and upward through Air, these magnet-canisters pass through permanently attached inductors and electricity is produced. At conclusion of Floatation-ascent Phase, canisters exit Fluid and continue moving upward through Air into Pivot Bucket; Pivot Bucket is then rotated and canisters are ejected onto Inclined Platform. At bottom of overall device Passive Roller System changes direction of travel for canisters from downward vertical motion in horizontal motion, then later to upward vertical motion. While traveling horizontally, kinetic energy is extracted from fast moving canisters by acquiring and storing increased hydraulic pressure, which is converted into electricity.

Probable Assignee: MOOSE ROBERT D

Earliest Publication Date: 20151210

40) Family number: 43928052 (US2011187102A)

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ENERGY SYSTEM

Abstract: Source: US2011187102A An ocean wave energy system is for generating power from ocean waves. The system comprises wall components defining one or more channels for guiding propagation of ocean waves therealong. Each channel has a first end for receiving the ocean waves and a second end remote from the first end. A float arrangement is disposed along each of the one or more channels between its first and second ends. Moreover, the float arrangement being arranged in size to progressively absorb energy from the ocean waves commencing with longest wavelength components in the waves and finishing with shortest wavelength components in the waves. The ocean wave energy system is capable of extracting energy efficiently and conveniently from ocean wave motion.

Probable Assignee: OCEAN WAVE ROCKER AS

Earliest Publication Date: 20091029

41) Family number: 48165131 (US2012090312A)

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LOW-DRAG HYDRO-PNEUMATIC POWER CYLINDER AND SYSTEM

Abstract: Source: US2012090312A A hydro-pneumatic cylinder for converting buoyancy energy of compressed gas into mechanical energy. The cylinder can include a pair of end plates disposed at opposite ends of the cylinder and a drive axle extending longitudinally through the cylinder and passing through the center of each end plate. The cylinder can also include a core support coupled to each end plate and centrally disposed in the cylinder and a plurality of vanes for promoting a low-drag flow. Each of the plurality of vanes is coupled to the core support and the pair of end plates. A bucket is defined by the core support, two of the plurality of vanes, and the pair of end plates. The cylinder further includes a vane support coupled to the plurality of vanes and the core support. The vane support defines a plurality of openings formed therein through which a gas can pass for equalizing pressure in the bucket.

Probable Assignee: GRAVITAIR RIGHTS INC

Earliest Publication Date: 20110120

42) Family number: 41824618 (EP1925817A2)

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A SYSTEM OF PRODUCTION OF ELECTRIC ENERGY FROM RENEWABLE ENERGY SOURCES

Abstract: Source: EP1925817A2 A system of production and management of electrical energy from renewable sources of energy, particularly from the synergetic exploitation of wind and solar energy through **pumped** storage hydroelectricity within a manmade water system, with the use of power electronics, including at least one **hydroelectric pumped** storage power station (5) which has: at least one **hydroelectric** turbine (9, 7), at least one electric motor driven **pump** (8, 6), at least one triple-fed frequency converter (FVC1), and at least one AC variable speed drive (DRIVE 2) which is fed from the output of the frequency converter (FVC1) and transmits electric power to the electric motor (8) of the electric motor driven **pump**. The triple-fed frequency converter (FVC1) has a first feed with electrical energy from the generator (9) of the **hydroelectric** turbine, a second feed from at least one wind farm (11) and a third feed from at least one photovoltaic power station (12). The leveling of the intermittent and fluctuating electrical energy from the wind farm (11) and from the photovoltaic power station (12) is realized by controlling the flow of electrical energy from the generator (9) of the **hydroelectric** turbine to the first feed of the triple-fed frequency converter (FVC1).

Probable Assignee: GAMANIS GEORGE A 55236 PANORAMA

Earliest Publication Date: 20080528

43) Family number: 42615098 (US2008296899A)

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APPARATUS AND METHOD FOR GENERATING ELECTRIC POWER FROM A SUBSURFACE WATER CURRENT

Abstract: Source: US2008296899A The present invention is a system for generating power using water current. In one embodiment, a subsurface power generating system includes a first power generating node, with at least one cross-flow turbine, at least one universal gear coupled to the at least one cross-flow turbine, at least one modular generator; and at least one clutch for engaging and disengaging the at least one modular generator and the at least one universal gear.

Probable Assignee: GULFSTREAM TECHNOLOGIES INC

Earliest Publication Date: 20081204

44) Family number: 46402073 (US2010186400A)

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METHOD, SYSTEM AND COMPUTER PROGRAM PRODUCT FOR PRODUCING RENEWABLE ELECTRICAL POWER

Abstract: Source: US2010186400A A system, method and computer program product for producing renewable electrical power energy which does not require the consumption of fossil-based, petroleum-based or other combustible fuels, nor release hazardous emissions or byproducts to the atmosphere or otherwise to the environment. The system utilizes closed-loop fluid recirculation and is not dependent upon an external unlimited sources of water flow and head as with dam-style hydro-electric power systems and is not dependant upon predefined favorable environmental and/or weather conditions to function. The system includes a DC **magnetic** system adapted to be coupled between an AC generator and a hydro-rotor/centrifugal **pump** system; a DC power source and charging system; a propulsion **pump** system; and a containment housing with a plurality of thrust producing vanes, fluid management infrastructure and reservoir. The hydro-rotor/centrifugal **pump** system utilizes thermal energy, kinetic energy, fluid dynamics, mass inertia and centrifugal forces to drive an AC electrical generator, and the DC **magnetic** system serves to both initiate the system and regulate the electrical output of the generator.

Probable Assignee: UNITED HYDRO TECHNOLOGIES CORP

Earliest Publication Date: 20100729

45) Family number: 49887012 (US2013061589A)

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HYDRAULIC POWER CONVERTER

Abstract: Source: US2013061589A An energy storage system that converts irregular power to controlled power by a hydraulic power converter that utilizes the irregular power to **pump** hydraulic fluid, stores at least a part of the **pumped** hydraulic fluid in a pressurized accumulator cluster, and provides controlled power by a hydraulic motor operated by pressurized hydraulic fluid from the accumulator cluster, according to a specified power demand. The operation of the hydraulic power converter may be controlled electrically and mechanically, and the hydraulic power converter may be integrated in a vehicle, to maintain an optimal operation range of the engine, or in an energy production device, for generating controlled power from the irregular output of the device.

Probable Assignee: NRG SPRING LTD

Earliest Publication Date: 20111103

46) Family number: 28316266 (US2002062644A)

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RIBBON DRIVE POWER GENERATION FOR VARIABLE FLOW CONDITIONS

Abstract: Source: US2002062644A The ribbon drive generation apparatus is comprised of a ribbon-like curved shape, composed either of metal or other suitable material, attached to a central axle with the complete apparatus being contained in a tube having a constant diameter for the length of the tube. A front portion of the tube has a pivot or tether and the rear portion of the tube has a drag means, such as fins, so as to cause rotation of the tube until it is oriented parallel to the flow. In another embodiment of the present invention, the electrical output of the ribbon drive generation apparatus is connected to a storage battery so as to store energy in times of high flow and make up for generating deficiencies during times of lesser flow. In yet another embodiment of the present invention, plural generating stages are serially arranged to adapt to flow variation and provide smooth start-up. Bypass vents and coupling means are located between each stage. Flow operates a first stage and exits via the bypass until a sufficient rotation is achieved. The coupling is then engaged and the bypass closed in order to operate the subsequent stage. In this manner, the generator of the present invention can be operated in stages.

Probable Assignee: HYDROCOIL POWER INC

Earliest Publication Date: 20010208

47) Family number: 57608079 (US2016290310A)

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IN-PIPE TURBINE AND HYDRO-ELECTRIC POWER GENERATION SYSTEM

Abstract: Source: US2016290310A A system (1) to generate electricity from a fluid flowing through a pipeline. The system comprises a mounting arrangement to mount the system in a pipeline. The system comprises an elongate shaft (4), a turbine rotor (6), which is operable to rotate about the elongate axis of the shaft (4) when fluid in the pipeline acts on the turbine rotor (6). The system further comprises an electrical generator arrangement with a first part incorporating at least one magnet (12) and a second part incorporating at least one winding (14). One part of the generator arrangement is mounted to the turbine rotor (6) and the other part of the generator arrangement is mounted to a stator element (13) which is positioned adjacent the turbine rotor (6). The system further comprises a housing (3) which at least partly houses the turbine rotor (6), the shaft (4) and the electrical generator arrangement. The housing (3) comprises two parts (24, 25) that are releasably attached to one another such that the two parts (24, 25) of the housing (3) can be at least partly separated from one another to permit access to the turbine rotor (6) and the electrical generator system.

Probable Assignee: KIRLOSKAR INTEGRATED TECHNOLOGIES LTD

Earliest Publication Date: 20150415

48) Family number: 30787007 (US2004160060A)

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TIDE COMPENSATED SWELL POWERED GENERATOR

Abstract: Source: US2004160060A The invention comprises a float system having a float connected to a **pump** line and a reservoir tank. As the float rises and falls with the passing swells, it forces water through the **pump** line into a reservoir tank. An outflow line connects the reservoir line to a generator system, preferably located on shore, where the flowing water is used to drive a turbine and generate electricity. Preferably, there are a plurality of reservoir tanks, each with its own float and **pump** line, delivering water to the generator system. The flow of water through the **pump** line is kept steady by providing each reservoir tank with a pressurized air cushion which provides for constant outflow of water from each tank despite variances in the inflow.

Probable Assignee: MONTGOMERY W C GRAY

Earliest Publication Date: 20040819

49) Family number: 51938580 (US2012285160A)

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WAVE-POWERED DEVICES CONFIGURED FOR NESTING

Abstract: Source: US2012285160A A wave-powered water vehicle includes a) a first component which is a float that travels on or near the water surface; b) a second component which is wave actuated and travels below the first component; and c) a means whereby the first component engages the second component and/or the second component engages the first component; wherein the engagement means provides lateral support of one component for the other, and thereby minimizes lateral movement of one against the other when the components are fitted together.

Probable Assignee: LIQUID ROBOTICS INC

Earliest Publication Date: 20120920

50) Family number: 48874556 (US2011109092A)

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WINDMILL ELECTRIC GENERATOR FOR **HYDROELECTRIC** POWER SYSTEM

Abstract: Source: US2011109092A A windmill electric generator includes a support base, an inline generator assembly, a large generator, a variable blade pitch housing and a plurality of blades. The support base includes a pedestal support and a rotating support. The inline generator assembly includes a generator support **structure**, a plurality of inline generators and a drive shaft. The generator support **structure** is attached to a top of the rotating support. Large generator support members are attached to the generator support **structure**. The variable blade pitch housing is attached to one end of the drive shaft. The plurality of blades are pivotally retained on the variable blade pitch housing. The large generator includes a rotor and a stator assembly. The rotor is retained on the other end of the drive shaft. The stator assembly is attached to an end of the plurality of large generator support members.

Probable Assignee: ECHEMENDIA ABEL J JR MR

Earliest Publication Date: 20110512

51) Family number: 20699472 (US5955790A)

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APPARATUS FOR CONVERTING TIDE/WAVE MOTION TO ELECTRICITY

Abstract: Source: US5955790A A power transfer system for generating electrical energy from recurring wave and tidal movement within the ocean. The system comprises a pressure sensing device, such as an array of pressure transducers, positioned at the ocean floor below water level and at a location of wave movement for (i) registering changes in height of water above the pressure sensing device and (ii) providing a power output corresponding to changes in force associated with the changes in the height of water. A transfer medium is coupled at one end to the pressure sensing device and extends underground to a second end at a shore location adjacent the location of wave movement for transmitting the power output of the pressure sensing device to the shore location. A bank of storage batteries is coupled to the transfer medium at the shore location for receiving the power output from the transfer medium and for storing the power output as a useful form of energy.

Probable Assignee: NORTH VAUGHN W

Earliest Publication Date: 19990916

52) Family number: 30116486 (US2002130520A)

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HYDROCRATIC GENERATOR

Abstract: Source: US2002130520A A hydraulic power generation system is provided for generating power using a pseudo-osmosis process which efficiently exploits the osmotic energy potential between two bodies of water having different salinity concentrations. The method and apparatus of the present invention does not require the use of a semi-permeable membrane or other specially formulated material, nor does it require heating or cooling of the fresh water or salt water solution. Moreover, the device may be used to recover energy from a wide variety of fresh water sources, including treated or untreated river run-off, treated waste-water run-off or effluent, storm-drain run-off, partly contaminated fresh water run-off, and a wide variety of other fresh water sources. The device is well suited to power production in a wide variety of geographic locations and under a wide variety of conditions. The invention has particular advantage for use in remote regions where electrical power generation by conventional means may be commercially infeasible or impractical.

Probable Assignee: WADER LLC

Earliest Publication Date: 20000914

53) Family number: 47204526 (WO12017243A1)

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AIRLIFT PUMP

Abstract: A **pump** comprising: a riser with a lower inlet and an upper outlet and a downpipe with a lower outlet and an upper inlet, wherein the riser is coupled to a buoyant fluid introducing means operable in use to introduce buoyant fluid into working fluid in the riser to thereby cause the working fluid to discharge from the upper outlet of the riser, and then to pass into the upper inlet of the downpipe for delivery to the lower outlet of the downpipe; and characterised in that the lower outlet of the downpipe is in use in contained working fluid connection with the lower inlet of the riser. In this way a relatively high flow rate may be maintained through the riser and downpipe during operation of the **pump** when buoyant fluid is introduced into the riser.

Probable Assignee: GREEN ENERGY INC LTD

Earliest Publication Date: 20120208

54) Family number: 48382699 (BRMU8901353U)

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USINA HIDROPNEUMOELETRICA COM BOCAL DE ENTRADA E SAIDA DO MESMO LADO HIDROPNEUMOELETRICA PLANT WITH ENTRANCE NIPPLE AND EXIT OF THE SAME SIDE (MACHINE TRANSLATION)

Abstract: Source: BRMU8901353U 1 RESUMO "USINA HIDROPNEUMOELETRICA COM BOCAL DE ENTRADA E SAIDA DO MESMO LADO" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63), compressor (66) com motor eletrico (72), gerador eletrico (75) com motor a explosao (78), aerador (80) com motor eletrico (86), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica, sendo a usina hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico de poco, tanque, caixa, piscina, cisterna, deposito, reservatorio, acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 SUMMARY "PLANT HIDROPNEUMOELETRICA WITH ENTRY NOZZLE AND OUT SIDE THE SAME" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, understood by hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), aerator (80) with electric motor (86), control unit electric (90) and pole or **tower** (121) of electric network, being the hidropneumoeletrica plant (1) filed with use and reuse of water collected and returned at the water resources fund poco, tank, box, pool, cistern, deposit, reservoir, sluice, barrage, dam, lake, pond, river, sea and ocean of the globe and use and reuse the air captured and returned to the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming water current and air bubbles in the pipeline output of hydraulic turbine and into the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

55) Family number: 59224229 (US2015128597A)

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SKY CONDENSER WITH VERTICAL TUBE COMPRESSION AND PRESSURIZED WATER UTILIZATION

Abstract: Source: US2015128597A A floated condenser extracts water from the sky. The condenser is part of or supplemental to a typical buoyed wind turbine set, comprising lift element, wind turbine, retention cable, electrical output, and base. The cable is hollow or coextensive with a lumen, the inner diameter thereof is water impermeable. The hollow/lumen stacks water over an accumulator, effecting a static base pressure $p = \rho gh$. This pressure makes the water utilizable. After pressure multiplication-via a hydrostatic piston-or not, a first stream of water electrolyzes into liquid hydrogen and oxygen, one or both stored/sold directly. Another stream of water drives a turbine/motor or series **hydroelectric** turbines/motors, powering electrolysis and/or grid, the water then stored at moderate pressure for water utilities. Excess power from the wind turbine also supplements electrical output. A conductor runs along the cable. Gasified hydrogen is routed via the cable, lifting the condenser/turbine/kite.

Probable Assignee: SCHLAK DANIEL KEITH

Earliest Publication Date: 20150514

56) Family number: 48382694 (BRMU8901361U)

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USINA HIDROPNEUMOELETRICA COM BOCAL DE ENTRADA E SAIDA EM LADOS OPOSTOS HIDROPNEUMOELETRICA PLANT WITH ENTRANCE NIPPLE AND EXIT IN OPPOSING SIDES (MACHINE TRANSLATION)

Abstract: Source: BRMU8901361U 1 - -- '4 RESUMO "USINA ffidROPNEUMOELETRICA COM BOCAL DE ENTRADA E SAIDA EM LADOS OPOSTOS" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, 5 compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63), compressor (66) com motor eletrico (72), gerador eletrico (75) com motor a explosao (78), aerador (80) com motor eletrico (86), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica, sendo a usina hidropneumoeletrica (1) movida com utilizacao e 10 reutilizacao da agua captada e devolvida no fundo de recurso hidrico de pouco, tanque, caixa, piscina, cisterna, deposito, reservatorio, acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina 15 hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de 20 energia. 1 - - '4 SUMMARY "ffidROPNEUMOELETRICA PLANT WITH INPUT AND OUTPUT NOZZLE ON OPPOSITE SIDES" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, 5 understood by hydraulic turbine (10) with generator electric (60) and **pump** (42) settlement with electric motor (63) compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), aerator (80) with electric motor (86), electric control cabinet (90) and pole or **tower** (121) of electric network, being the hidropneumoeletrica plant (1) filed with utilization and 10 reuse of water collected and returned at the water resources fund poco tank box, pool, cistern, deposit, reservoir, sluice, barrage, dam, lake, pond, river, sea and ocean of the globe and use and reuse the air captured and returned to the atmosphere, using the force of the **pump** (42) of repression and compressor (66) to create water movement that drives the turbine 15 hydraulic (10) and electric generator (60), forming water current and air bubbles in the pipeline output of hydraulic turbine and into the water of water resources, that rise to the surface being reused, generating electric energy for self consumption of the plant and of populations and economic activities with utilization of water and air as sources of reusable resource of 20 energy.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

57) Family number: 47896627 (WO10144983A2)

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HYDROPNEUMATIC POWER STATION WITH A POWER HOUSE AND CYLINDRICAL TANK FOR SURFACE WATER

Abstract: A hydropneumatic power station with a power house and cylindrical tank for surface water, for use in the field of electricity generation, solving the problems caused by the thermal, atomic and **hydroelectric** power stations in the prior art, and comprising a hydropneumatic power station (1), a surface power house (160) and a cylindrical surface water tank (150). The hydropneumatic power station (1) is located inside the surface power house (160), together with the cylindrical surface water tank (150). The hydropneumatic power station (1) comprises a hydraulic turbine (10) with an electricity generator (60) and a pressure **pump** (42) with an electric motor (63), a compressor (66) with an electric motor (72), an electricity generator (75) with an internal combustion engine (78), an electric control panel (90) and an electric grid post or **tower** (121) located in the surface power house (160). The hydropneumatic power station (1) is powered by the use and re-use of water taken from and returned to the natural water reserves, and by the use and re-use of air taken from and returned to the atmosphere, using the power of the pressure **pump** (42) and compressor (66) to create the water movement that drives the hydraulic turbine (10) and the electricity generator (60), forming a stream of water containing air bubbles in the discharge pipes of the hydraulic turbine and in the body of water, which rise to the surface for being re-used, generating electric power for self-consumption by the power station and for consumption by the population and economic activities, using water and air as natural re-usable energy sources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20101223

58) Family number: 48382738 (BRMU8901354U)

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USINA HIDROPNEUMOELETRICA COM CASA DE FORCA SUBMERSA E PLATAFORMA TERRESTRE HIDROPNEUMOELETRICA PLANT WITH HOUSE OF SUBMERGED GALLOWS AND TERRESTRIAL PLATFORM (MACHINE TRANSLATION)

Abstract: Source: BRMU8901354U 1 RESUMO "USINA ffidROPNEUMOELETRICA COM CASA DE FORCA SUBMERSA E PLATAFORMA TERRESTRE" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, compreendida por uma usina hidropneumoeletrica (1), casa de forca submersa (220) e plataforma terrestre (260), sendo a usina hidropneumoeletrica (1) instalada dentro da casa de forca submersa (220) na agua de recurso hidrico de pouco, tanque, caixa, piscina, cisterna, deposito, reservatorio, acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a usina hidropneumoeletrica (1) compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63) instalados dentro da casa de forca submersa (220), e compressor (66) com motor eletrico (72), gerador eletrico (75) com motor a explosao (78), aerador (80) com motor eletrico (86), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica instalados na plataforma terrestre (260), sendo a usina hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 SUMMARY "PLANT ffidROPNEUMOELETRICA WITH FORCE HOUSE SUBMERGED AND GROUND PLATFORM" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, understood by a hidropneumoeletrica plant (1), submerged force the Home (220) and terrestrial platform (260), the hidropneumoeletrica plant (1) installed inside the submerged gallows home (220) in water resource of water poco, tank, box, pool, cistern, deposit, reservoir, sluice, barrage, dam, lake, pond, river, sea and ocean of the globe, and the hidropneumoeletrica plant (1) comprised of hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) installed inside the house submerged strength (220) and compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), aerator (80) with electric motor (86), electrical control cabinet (90) and pole or **tower** (121) of electric network installed on the terrestrial platform (260), the hidropneumoeletrica plant (1) filed with use and reuse of water collected and returned at the bottom of water resources and to use and reuse the air captured and returned in the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming stream of water and air bubbles in the pipe exit of the hydraulic turbine and the water within the water resource, which rise to the surface being reused, generating electric energy for self consumption of the plant and of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

59) Family number: 48382803 (BRMU8901355U)

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**USINA HIDROPNEUMOELÉTRICA COM CASA DE FORÇA SUBMERSA E PLATAFORMA FIXA AQUÁTICA, MARÍTIMA OU OCEÂNICA
HIDROPNEUMOELÉTRICA PLANT WITH HOUSE OF SUBMERGED GALLOWS AND AQUATIC, MARITIME OR OCEANIC PLATFORM FIXED (MACHINE TRANSLATION)**

Abstract: Source: BRMU8901355U 1 Ai\hoil\$ ssr-i RESUMO "USINA ffidROPNEUMOELÉTRICA COM CASA DE FORÇA SUBMERSA E PLATAFORMA FIXA AQUÁTICA, MARÍTIMA OU OCEÂNICA" pertencente ao setor elétrico, resolvendo problemas de usinas térmicas, atômicas e hidrelétricas 5 do estado da técnica, compreendida por uma usina hidropneumoelétrica (1), casa de força submersa (220) e plataforma aquática, marítima ou oceânica (290), sendo a usina hidropneumoelétrica (1) instalada dentro da casa de força submersa (220) na água de recurso hídrico de acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a usina hidropneumoelétrica (1) compreendida por 10 turbina hidráulica (10) com gerador elétrico (60) e bomba (42) de recalque com motor elétrico (63) instalados dentro da casa de força submersa (220), e compressor (66) com motor elétrico (72), gerador elétrico (75) com motor a explosão (78), aerador (80) com motor elétrico (86), quadro de comando elétrico (90) e poste ou torre (121) de rede elétrica instalados na plataforma aquática, marítima ou oceânica 15 (290), sendo a usina hidropneumoelétrica (1) movida com utilização e reutilização da água captada e devolvida no fundo de recurso hídrico e com utilização e reutilização do ar captado e devolvido na atmosfera, usando a força da bomba (42) de recalque e compressor (66) para criar movimento de água que move a turbina hidráulica (10) e gerador elétrico (60), formando corrente de água e de bolhas de ar 20 na tubulação de saída da turbina hidráulica e dentro da água do recurso hídrico, que sobem para superfície sendo reutilizados, gerando energia elétrica para autoconsumo da usina e consumo das populações e atividades econômicas, com utilização da água e ar como fontes de recursos naturais reutilizáveis de energia. 1 Ai \ / Hoil \$ ssr-i SUMMARY "PLANT ffidROPNEUMOELÉTRICA WITH FORCE HOUSE SUBMERGED AND FIXED PLATFORM AQUÁTICA, MARITIME OR OCEANICA" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** 5 state of the technique, understood by one hidropneumoelétrica plant (1), submerged force the Home (220) and Aquática platform, sea or oceanic (290), the hidropneumoelétrica plant (1) installed inside the submerged gallows home (220) in water resource of water weir, dam, lake, pond, river, sea and ocean of the globe, and the hidropneumoelétrica plant (1) comprised of 10 hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) installed inside the submerged gallows house (220) and compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), aerator (80) with electric motor (86), frame electric command (90) and pole or **tower** (121) of electric installed network in aquatic platform, sea or oceanic 15 (290), the hidropneumoelétrica plant being (1) filed with use and reuse of water collected and returned at the water resources fund and use and reuse the air captured and returned to the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming chain of water and air 20 bubbles in the pipeline output of hydraulic turbine and into the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and consumption of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

60) Family number: 48382875 (BRMU8901356U)

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**USINA HIDROPNEUMOELÉTRICA COM CASA DE FORÇA SUBMERSA E PLATAFORMA SEMI-SUBMERSÍVEL
HIDROPNEUMOELÉTRICA PLANT WITH HOUSE OF SUBMERGED GALLOWS AND PLATFORM HALF-SUBMERSIBLE (MACHINE TRANSLATION)**

Abstract: Source: BRMU8901356U 1 RESUMO "USINA HIDROPNEUMOELÉTRICA COM CASA DE FORÇA SUBMERSA E PLATAFORMA SEMI-SUBMERSÍVEL" pertencente ao setor elétrico, resolvendo problemas de usinas térmicas, atômicas e hidrelétricas do estado da técnica, compreendida por uma usina hidropneumoelétrica (1), casa de força submersa (220) e plataforma semi- submersível (300), sendo a usina hidropneumoelétrica (1) instalada dentro da casa de força submersa (220) na água de recurso hídrico de acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a usina hidropneumoelétrica (1) compreendida por turbina hidráulica (10) com gerador elétrico (60) e bomba (42) de recalque com motor elétrico (63) instalados dentro da casa de força submersa (220), e compressor (66) com motor elétrico (72), gerador elétrico (75) com motor a explosão (78), aerador (80) com motor elétrico (86), quadro de comando elétrico (90) e poste ou torre (121) de rede elétrica instalados na plataforma semi-submersível (300), sendo a usina hidropneumoelétrica (1) movida com utilização e reutilização da água captada e devolvida no fundo de recurso hídrico e com utilização e reutilização do ar captado e devolvido na atmosfera, usando a força da bomba (42) de recalque e compressor (66) para criar movimento de água que move a turbina hidráulica (10) e gerador elétrico (60), formando corrente de água e de bolhas de ar na tubulação de saída da turbina hidráulica e dentro da água do recurso hídrico, que sobem para superfície sendo reutilizados, gerando energia elétrica para autoconsumo da usina e consumo das populações e atividades econômicas, com utilização da água e ar como fontes de recursos naturais reutilizáveis de energia. 1 SUMMARY "PLANT HIDROPNEUMOELÉTRICA WITH FORCE HOUSE SUBMERGED AND SEMI-SUBMERSIBLE PLATFORM" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, understood by a hidropneumoelétrica plant (1), submerged force home (220) and semi-submersible platform (300), the hidropneumoelétrica plant (1) installed inside the submerged gallows home (220) in water resource of water weir, dam, lake, pond, river, sea and ocean globe, being the hidropneumoelétrica plant (1) comprised of hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) installed inside the submerged gallows house (220) and compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), aerator (80) with electric motor (86), electrical control cabinet (90) and pole or **tower** (121) of electric network installed in the semi-submersible platform (300), the hidropneumoelétrica plant (1) filed with use and reuse of water collected and returned at the bottom of water resources and to use and reuse the air captured and returned to the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming water current and air bubbles in the pipeline output of hydraulic turbine and into the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

61) Family number: 41730885 (US2008088134A)

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OCEAN WAVE POWER RECOVERY AND CONVERSION SPAR BUOY ENGINE

Abstract: Source: US2008088134A A device for capturing power in a wave of a body of water and converting it to useful form. The device includes a housing portion having an opening for receiving flow from a wave in a body of water, and an engine portion within said housing adapted to be acted upon by the flow from the wave, thereby producing electricity. The device also includes at least one float portion to position the device at a desired depth within a body of water.

Probable Assignee: MONTGOMERY JAMES SCOTT

Earliest Publication Date: 20080417

62) Family number: 48382798 (BRMU8901263U)

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USINA HIDROPNEUMOELETRICA COM CASA DE FORCA SUBMERSA E PLATAFORMA FLUTUANTE DE BARCO OU NAVIO HIDROPNEUMOELETRICA PLANT WITH HOUSE OF SUBMERGED GALLOWS AND FLOATING PLATFORM OF BOAT OR SHIP (MACHINE TRANSLATION)

Abstract: Source: BRMU8901263U 1 RESUMO "USINA HIDROPNEUMOELETRICA COM CASA DE FORCA SUBMERSA E PLATAFORMA FLUTUANTE DE BARCO OU NAVIO" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, compreendida por uma usina hidropneumoeletrica (i), casa de forca submersa (220) e plataforma flutuante (320) de barco ou navio (321), sendo a usina hidropneumoeletrica (1) instalada dentro da casa de forca submersa (220) na agua de recurso hidrico de acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a usina hidropneumoeletrica (1) compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63) instalados dentro da casa de forca submersa (220) e um compressor (66) com motor eletrico (72), gerador eletrico (75) com motor a explosao (78), aerador (80) com motor eletrico (86), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica instalados na plataforma flutuante (320) de barco ou navio (321), sendo a usina hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 SUMMARY "HIDROPNEUMOELETRICA PLANT WITH SUBMERGED FORCE HOUSE AND DECK BOAT FLOATING OR SHIP" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, understood by a hidropneumoeletrica plant (i), gallows house submerged (220) and floating platform (320) by boat or ship (321), the hidropneumoeletrica plant (1) installed inside the submerged gallows home (220) in water resource of water weir, dam, lake, pond, river, sea and ocean of the globe, and the hidropneumoeletrica plant (1) comprised of hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) installed inside the submerged gallows house (220) and a compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), aerator (80) with electric motor (86), electrical control cabinet (90) and pole or **Tower** (121) Electric installed network on the floating platform (320) by boat or ship (321), the hidropneumoeletrica plant (1) filed with use and reuse of water collected and returned at the bottom of water resources and use and reuse of air captured and returned to the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming water stream and bubbles air at the turbine outlet pipe hydraulics and in the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and consumption of populations and economic activities with utilization of water and air as sources of reusable natural resources power.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

63) Family number: 48382620 (BRMU8901349U)

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USINA HIDROPNEUMOELETRICA DE BARRAGEM OU REPRESA COM CASA DE FORCA DE SUPERFICIE HIDROPNEUMOELETRICA PLANT OF BARRAGE OR DAM WITH HOUSE OF SURFACE GALLOWS (MACHINE TRANSLATION)

Abstract: Source: BRMU8901349U 1 4V RESUMO "USINA HIDROPNEUMOELETRICA DE BARRAGEM OU REPRESA COM CASA DE FORCA DE SUPERFICIE" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do 5 estado da tecnica, compreendida por usina hidropneumoeletrica (1), barragem ou represa (125) e casa de forca de superficie (160), sendo a usina hidropneumoeletrica (1) compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63), compressor (66) com motor eletrico (72), gerador eletrico (75) com 10 motor a explosao (78), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica instaladas na casa de forca de superficie (160), sendo a usina hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da 15 bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e 20 consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 4V SUMMARY "PLANT HIDROPNEUMOELETRICA DAM OR DAM WITH SURFACE FORCE HOUSE" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** plants of 5 state of the technique, understood by hidropneumoeletrica plant (1), dam or dam (125) and surface force the Home (160), the hidropneumoeletrica plant (1) comprised of hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) compressor (66) with electric motor (72), electric generator (75) with 10 motor explosion (78), electrical control cabinet (90) and pole or **tower** (121) of electric installed network on the surface to force the Home (160), and the hidropneumoeletrica plant (1) filed with use and reuse of water collected and returned at the bottom of water resources and to use and reuse the air captured and returned to the atmosphere, using the strength of 15 **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming stream of water and air bubbles in the turbine outlet pipe hydraulics and in the water of water resources, which rise to the surface being reused generating electric energy for self consumption of the plant and 20 of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

64) Family number: 47896629 (WO10144986A2)

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HYDROPNEUMATIC POWER STATION WITH UNDERGROUND POWER HOUSE AND LAND PLATFORM

Abstract: A hydropneumatic power station with an underground power house and land platform, for use in the field of electricity generation, solving the problems caused by the thermal, atomic and **hydroelectric** power stations in the prior art, and comprising a hydropneumatic power station (1), an underground power house (240) and a land platform (260). The hydropneumatic power station (1) is located inside the underground power house (240) under the subsoil of the banks or shores of a body of water, such as a well, tank, pool, cistern, reservoir, dam, dike, lake, pond, river, sea or ocean on the Earth globe. The hydropneumatic power station (1) comprises a hydraulic turbine (10) with an electricity generator (60) and a pressure **pump** (42) with an electric motor (63) located inside the underground power house (240), and a compressor (66) with an electric motor (72), an electricity generator (75) with an internal combustion engine (78), an electric control panel (90) and an electric grid post or **tower** (121) located in the land platform (240). The hydropneumatic power station (1) is powered by the use and re-use of water taken from and returned to the natural water reserves, and by the use and re-use of air taken from and returned to the atmosphere, using the power of the pressure **pump** (42) and compressor (66) to create the water movement that drives the hydraulic turbine (10) and the electricity generator (60), forming a stream of water containing air bubbles in the discharge pipes of the hydraulic turbine and in the body of water, which rise to the surface for being re-used, generating electric power for self-consumption by the power station and for consumption by the population and economic activities, using water and air as natural re-usable energy sources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20101223

65) Family number: 48382578 (BRMU8901350U)

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USINA HIDROPNEUMOELETRICA COM CASA DE FORCA IMERSA E PLATAFORMA SOBRE O TETO HIDROPNEUMOELETRICA PLANT WITH HOUSE OF IMMERSED GALLOWS AND PLATFORM ON THE CEILING (MACHINE TRANSLATION)

Abstract: Source: BRMU8901350U 1 /il\J <M 0i3So - c RESUMO "USINA HIDROPNEUMOELETRICA COM CASA DE FORCA IMERSA E PLATAFORMA SOBRE O TETO" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, 5 compreendida por uma usina hidropneumoeletrica (1), casa de forca imersa (180) e plataforma (200) sobre o teto (187), sendo a usina hidropneumoeletrica (1) instalada dentro da casa de forca imersa (180) na agua de recurso hidrico de pouco, tanque, caixa, piscina, cisterna, deposito, reservatorio, acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a 10 usina hidropneumoeletrica (1) compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63) instalados dentro da casa de forca imersa (180), e compressor (66) com motor eletrico (72), gerador eletrico (75) com motor a explosao (78), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica instalados na plataforma (200), sendo a usina 15 hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da 20 turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 / il\J and It; M 0i3So - c SUMMARY "PLANT HIDROPNEUMOELETRICA WITH HOUSE OF FORCE immersed AND PLATFORM ON THE ROOF" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, 5 understood by a hidropneumoeletrica plant (1), gallows house immersed (180) and platform (200) on the roof (187), the hidropneumoeletrica plant being (1) installed inside the immersed hanging house (180) in water resource of water pouco, tank, box, pool, cistern, deposit, reservoir, sluice, barrage, dam, lake, pond, river, sea and ocean of the globe, with 10 hidropneumoeletrica plant (1) comprised of hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) installed inside the immersed hanging house (180) and compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), electric control cabinet (90) and pole or **tower** (121) of electric installed network on the platform (200), and the plant 15 hidropneumoeletrica (1) filed with use and reuse of water collected and returned at the water resources fund and to use and reuse the air captured and returned to the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming current water and air bubbles in the 20 turbine outlet pipe hydraulics and in the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and consumption of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

66) Family number: 48382611 (BRMU8901351U)

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USINA HIDROPNEUMOELETRICA COM CASA DE FORCA SUBMERSA E PLATAFORMA FLUTUANTE HIDROPNEUMOELETRICA PLANT WITH HOUSE OF SUBMERGED GALLOWS AND FLOATING PLATFORM (MACHINE TRANSLATION)

Abstract: Source: BRMU8901351U 1 / W faoHJCI-1/ RESUMO "USINA HIDROPNEUMOELETRICA COM CASA DE FORCA SUBMERSA E PLATAFORMA FLUTUANTE" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, compreendida por uma usina hidropneumoeletrica (1), casa de forca submersa (220) e plataforma flutuante (270), sendo a usina hidropneumoeletrica (1) instalada dentro da casa de forca submersa (220) na agua de recurso hidrico de acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a usina hidropneumoeletrica (1) compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63) instalados dentro da casa de forca submersa (220), e compressor (66) com motor eletrico (72), gerador eletrico (75) com motor a explosao (78), aerador (80) com motor eletrico (86), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica instalados na plataforma flutuante (270), sendo a usina hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 / W faoHJCI-1 / SUMMARY "PLANT HIDROPNEUMOELETRICA WITH FORCE HOUSE SUBMERGED AND FLOATING PLATFORM" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, understood by a hidropneumoeletrica plant (1) house submerged strength (220) and floating platform (270), the hidropneumoeletrica plant (1) installed inside the submerged gallows home (220) in water resource of water weir, dam, dam, lake, pond, river, sea and Ocean globe, being the hidropneumoeletrica plant (1) comprised of turbine hydraulic (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) installed inside the submerged gallows house (220), and compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), aerator (80) with electric motor (86), electrical control cabinet (90) and pole or **tower** (121) electric network installed on the floating platform (270), the hidropneumoeletrica plant (1) filed with use and reuse of water collected and returned at the bottom of water resources and to use and reuse the air captured and returned to the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming water current and air bubbles in the pipeline output of hydraulic turbine and into the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

67) Family number: 48383019 (BRMU8901358U)

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USINA HIDROPNEUMOELETRICA COM CASA DE FORCA IMERSA E PLATAFORMA TERRESTRE HIDROPNEUMOELETRICA PLANT WITH HOUSE OF IMMERSED GALLOWES AND TERRESTRIAL PLATFORM (MACHINE TRANSLATION)

Abstract: Source: BRMU8901358U 1 kl? #01 percent percent - d RESUMO "USINA HIDROPNEUMOELETRICA COM CASA DE FORCA IMERSA E PLATAFORMA TERRESTRE" pertencente ao setor eletrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do estado da tecnica, compreendida por uma usina hidropneumoeletrica (1), casa de forca imersa (180) e plataforma terrestre (260), sendo a usina hidropneumoeletrica (1) instalada dentro da casa de forca imersa (180) na agua de recurso hidrico de poco, tanque, caixa, piscina, cisterna, deposito, reservatorio, acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, sendo a usina hidropneumoeletrica (1) compreendida por turbina hidraulica (10) com gerador eletrico (60) e bomba (42) de recalque com motor eletrico (63) instalados dentro da casa de forca imersa (180), e compressor (66) com motor eletrico (72), gerador eletrico (75) com motor a explosao (78), quadro de comando eletrico (90) e poste ou torre (121) de rede eletrica instalados na plataforma terrestre (260), sendo a usina' hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 kl? # 01 percent percent - d SUMMARY "PLANT HIDROPNEUMOELETRICA WITH FORCE HOUSE immersed AND GROUND PLATFORM" belonging to the electric sector, solving problems of Thermal plants, atomic and **hydroelectric** state of the technique, understood by a hidropneumoeletrica plant (1), gallows house immersed (180) and terrestrial platform (260), the hidropneumoeletrica plant being (1) installed inside the immersed hanging house (180) in water resource of water poco, tank, box, pool, cistern, deposit, reservoir, sluice, dam, dam, lake, pond, river, sea and ocean of the globe, and the hidropneumoeletrica plant (1) comprised of hydraulic turbine (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) installed inside the immersed hanging house (180) and compressor (66) with electric motor (72), electric generator (75) with motor explosion (78), electrical control cabinet (90) and pole or **tower** (121) of electric network installed on the terrestrial platform (260), the plant 'hidropneumoeletrica (1) filed with use and reuse of water collected and returned at the bottom of water resources and to use and reuse the air captured and returned to the atmosphere, using the force **Pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and electric generator (60), forming stream of water and air bubbles in the pipeline output of hydraulic turbine and within the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and of populations and economic activities with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

68) Family number: 48383086 (BRMU8901359U)

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USINA HIDROPNEUMOELETRICA COM CASA DE FORCA E DEPOSITO DE AGUA DE SUPERFICIE HIDROPNEUMOELETRICA PLANT WITH GALLOWES HOUSE AND I DEPOSIT OF SURFACE WATER (MACHINE TRANSLATION)

Abstract: Source: BRMU8901359U 1 kv -0 RESUMO "USINA HTOROPNEUMOELÉTRICA COM CASA DE FORÇA E DEPOSITO DE AGUA DE SUPERFÍCIE" pertencente ao setor elétrico, resolvendo problemas de usinas termicas, atomicas e hidreletricas do 5 estado da tecnica, compreendida por uma usina hidropneumoeletrica (1), casa de forca de superficie (160) e deposito de agua de superficie (130), sendo a usina hidropneumoeletrica (1) instalada dentro da casa de forca de superficie (160) conjugada com o deposito de agua de superficie (130), sendo a usina hidropneumoeletrica (1) compreendida por turbina hidraulica 10 (10) com gerador elétrico (60) e bomba (42) de recalque com motor elétrico (63), compressor (66) com motor elétrico (72), gerador elétrico (75) com motor a explosao (78), quadro de comando elétrico (90) e poste ou torre (121) de rede elétrica instalados na casa de forca de superficie (160), sendo a usina hidropneumoeletrica (1) movida com utilizacao e 15 reutilizacao da agua captada e devolvida no fundo de recurso hidrico e com utilizacao e reutilizacao do ar captado e devolvido na atmosfera, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador elétrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da 20 turbina hidraulica e dentro da agua do recurso hidrico, que sobem para superficie sendo reutilizados, gerando energia elétrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia. 1 -0 kV SUMMARY "HTOROPNEUMOELÉTRICA PLANT WITH HOUSE OF FORCE AND DEPOSIT OF SURFACE WATER" belonging to the electric sector, solving problems of Thermal, atomic and **hydroelectric** plants of 5 state of technical plants, comprised of a hidropneumoeletrica plant (1) house of surface strength (160) and surface water deposit (130), the hidropneumoeletrica plant (1) installed in the surface force the Home (160) coupled with the surface water deposit (130), the plant hidropneumoeletrica (1) comprised of turbine hydraulic 10 (10) with electric generator (60) and **pump** (42) settlement with electric motor (63) compressor (66) with electric motor (72), electric generator (75) with motor the explosion (78), electrical control cabinet (90) and pole or **tower** (121) of electric installed network on the surface to force the Home (160), the hidropneumoeletrica plant (1) filed with utilization and 15 reuse of captured water and returned at the bottom of water resources and to use and reuse the air captured and returned to the atmosphere, using the force of the **pump** (42) settlement and compressor (66) to create water movement that drives the hydraulic turbine (10) and generator electric (60), forming stream of water and air bubbles in the pipeline output of 20 turbine hydraulic and in the water of water resources, which rise to the surface being reused, generating electric energy for self consumption of the plant and consumption of populations and activities economic, with utilization of water and air as sources of reusable natural energy resources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

69) Family number: 48505205 (US2011070031A)

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SYSTEM FOR UNDERWATER COMPRESSED FLUID ENERGY STORAGE AND METHOD OF DEPLOYING SAME

Abstract: Source: US2011070031A A system and method for underwater compressed fluid energy storage include a compressed fluid storage system that comprises a fluid containment vessel positioned on a floor of a body of water, wherein the fluid containment vessel comprises sediment positioned therein to ballast the vessel on the floor.

Probable Assignee: BRIGHT ENERGY STORAGE TECHNOLOGIES LLP

Earliest Publication Date: 20110324

70) Family number: 2916411 (US4816696A)

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VARIABLE-SPEED **PUMPED-STORAGE POWER GENERATING SYSTEM**

Abstract: Source: US4816696A A variable-speed **pumped**-storage power generating system includes a variable-speed generator/motor, a frequency converter connected to an electric power system, and a **pump**/turbine driven by the generator/motor. The power generating system comprises an optimum rotation speed function generator calculating an optimum rotation speed of the motor for driving the **pump**, a speed detector generating a speed detection signal of the motor, a speed regulator receiving the output signals from the function generator and speed detector for generating an output correction signal, an adder adding the output correction signal to output command signal, a comparator comparing the output signal of the adder with an output power detection signal generated from a motor output detector and generating an error signal, and an output regulator controlling the excitation of the secondary winding of the motor through the frequency converter so as to decrease the output power error to zero, thereby controlling the output and rotation speed of the motor. The power generation system also comprises an optimum guide-vane opening function generator calculating an optimum guide vane opening, a comparator comparing the output signal of the guide-vane opening function generator with a guide-vane opening detection signal from a guide-vane opening detector, and a guide-vane opening regulator controlling the opening of the guide vanes according to the result of the comparison.

Probable Assignee: HITACHI LTD

Earliest Publication Date: 19871104

71) Family number: 47896625 (WO10144984A1)

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HYDROPNEUMATIC POWER STATION WITH A SUBMERGED, CYLINDRICAL POWER HOUSE AND A LAND PLATFORM

Abstract: A hydropneumatic power station with a submerged, cylindrical power house and a land platform, for use in the field of electricity generation, solving the problems caused by the thermal, atomic and **hydroelectric** power stations in the prior art, and comprising a hydropneumatic power station (1), a submerged, cylindrical power house (210) and a land platform (260). The hydropneumatic power station (1) is located inside the cylindrical power house (210) submerged in a body of water, such as a well, tank, pool, cistern, reservoir, dam, dike, lake, pond, river, sea or ocean of the Earth globe. The hydropneumatic power station (1) comprises a hydraulic turbine (10) with an electricity generator (60) and a pressure **pump** (42) with an electric motor (63) located inside the submerged, cylindrical power house (210), and a compressor (66) with an electric motor (72), an electricity generator (75) with an internal combustion engine (78), an electric control panel (90) and an electric grid post or **tower** (121) located in the land platform (260). The hydropneumatic power station (1) is powered by the use and re-use of water taken from and returned to the natural water reserves, and by the use and re-use of air taken from and returned to the atmosphere, using the power of the pressure **pump** (42) and compressor (66) to create the water movement that drives the hydraulic turbine (10) and electricity generator (60), forming a stream of water containing air bubbles in the discharge pipes of the hydraulic turbine and in the body of water, which rise to the surface for being re-used, generating electric power for self-consumption by the power station and for consumption by the population and economic activities, using water and air as natural re-usable energy sources.

Probable Assignee: MAGLIA JOAO BATISTA

72) Family number: 66784681 (WO17147565A3)

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ENERGY CONVERSION DEVICE

Abstract: An energy conversion device is disclosed. The energy conversion device can include a **magnetic** field producing element, and a coil having a coil axis. The **magnetic** field producing element and the coil can be movable relative to one another in a movement plane. The coil axis can be substantially perpendicular to the movement plane.

Probable Assignee: FAIT MITCHELL

Earliest Publication Date: 20170831

73) Family number: 41803347 (US2010140935A)

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REVERSIBLE **HYDROELECTRIC** DEVICE

Abstract: Source: US2010140935A Reversible **hydroelectric** device that can be installed on an outside pipe, comprising a hydraulic power unit comprising a hydraulic machine comprising a centrifugal **pump** that can be reversed as a turbine and a hydraulic circuit having bypass branches and motorized valves allowing circulation of water in said hydraulic machine in one direction or the other irrespective of the direction of circulation of the water in said outside pipe; an electric machine coupled to said hydraulic machine and comprising an asynchronous motor that can be reversed as an asynchronous generator; and an electronic system comprising a programmable controller for adjusting and/or regulating said valves and an electronic variator for adjusting and/or regulating the rotation speed of said electric machine so that the pressure and/or flow rate downstream of the hydraulic machine depending on the direction of circulation is/are stabilized or adjusted to at least one set point value.

Probable Assignee: PAOLI JOSEPH

Earliest Publication Date: 20080515

74) Family number: 47896626 (WO10144985A1)

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SHIELDED SUBMERGED HYDROPNEUMATIC POWER STATION

Abstract: A shielded submerged hydropneumatic power station, for use in the field of electricity generation, solving the problems caused by the thermal, atomic and **hydroelectric** power stations in the prior art, and comprising a hydropneumatic power station (1) submerged in a body of water, such as a well, tank, pool, cistern, reservoir, dam, dike, lake, pond, river, sea or ocean of the Earth globe. The hydropneumatic power station (1) comprises a hydraulic turbine (10) with a shielded submerged electricity generator (60) and a pressure **pump** (42) with a shielded submerged electric motor (63) submerged in the body of water, and a compressor (66) with an electric motor (72), an electricity generator (75) with an internal combustion engine (78), a ventilator (80) with an electric motor (86), an electric control panel (90) and an electric grid post or **tower** (121) located in the platform. The hydropneumatic power station (1) is powered by the use and re-use of water taken from and returned to the natural water reserves, and by the use and re-use of air taken from and returned to the atmosphere, using the power of the pressure **pump** (42) and compressor (66) to create the water movement that drives the hydraulic turbine (10) and the electricity generator (60), forming a stream of water containing air bubbles in the discharge pipes of the hydraulic turbine and in the body of water, which rise to the surface for being re-used, generating electric power for self-consumption by the power station and for consumption by the population and economic activities, using water and air as natural re-usable energy sources.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20101223

75) Family number: 47807268 (US2010308589A)

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HEAVING OCEAN WAVE ENERGY CONVERTER

Abstract: Source: US2010308589A An ocean wave energy device uses large gas filled and surface vented or evacuated flexible containers having rigid movable ends and rigid fixed depth ends connected by flexible bellows, suitably reinforced against external hydrostatic pressure, submerged to a depth below anticipated wave troughs. One or more containers compress and expand as waves and troughs, respectively, pass overhead driving hydraulic or pneumatic, **pumping** means producing pressurized fluid flow for a common sea bed motor-generator or for other uses or on-board direct drive generators. Mechanical, hydraulic or pneumatic means re-expand said containers when a wave trough is overhead. Power output is augmented by mechanically connecting said rigid moving surfaces to surface floats, which may also provide said surface vent such that as waves lift and troughs lower said floats, said containers are further compressed and re-expanded, respectively. Depth fixing and adjustment means for tides and sea-states are provided.

Probable Assignee: ROHRER TECHNOLOGIES INC

Earliest Publication Date: 20101209

76) Family number: 59879730 (US2015204466A)

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UNDERWATER UTILITY LINE

Abstract: Source: US2015204466A An underwater utility line, and associated systems and methods are disclosed. The underwater utility line can include an adjustably buoyant tube. The underwater utility line can also include a transmission line to transfer energy disposed in an interior of the adjustably buoyant tube. The underwater utility line can further include a gas source and a controller to control the gas provided by the gas source to alter the buoyancy of the adjustably buoyant tube.

Probable Assignee: FAIT MITCHELL

Earliest Publication Date: 20150723

77) Family number: 30282462 (US2004027020A)

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ELECTRO-**MAGNETIC** ARCHIMEDEAN SCREW MOTOR-GENERATOR

Abstract: Source: US2004027020A An Archimedes' screw serves as a rotor, inducer, impeller, and/or driver with motor and/or generator configurations that surround the screw by attaching to an outer cylinder of the screw. The screw acts as the motor's rotor axis with attached permanent magnets and or frame and the stator is built around the auxiliary circumference of this rotor. The rotor may also house half the bearings and can be used for the movement of fluids and/or solids, for cavitation-less drive of water vehicles, or for the generation of electrical power when the fluids become the motive force to drive the unit.

Probable Assignee: NEWCOMB RONALD A

Earliest Publication Date: 20040212

78) Family number: 60595856 (US9166458B)

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PUMP/GENERATOR OVER-UNITY APPARATUS AND METHOD

Abstract: Source: US9166458B The **pump**/generator apparatus and method provides a series of **pump**/generator devices, having magnets in place of conventional bearings, to generate electrical energy, creating a **pump**/generator for flowing liquids or gases. Stator coils on the outside of the housing gather electric current. The apparatus requires initial input power from an external power source to start the **pumping** and provides an initial external reservoir of liquid or gas flowing into the apparatus. A hollow turbine housing receiving flowing gas or liquid, encloses a freely spinning hollow drive cylinder. A helicoidal impeller gives the drive cylinder thrust to spin. Ring magnets vertically support the helicoidal impeller allowing the drive cylinder to float freely in the pipeline. Stator coils wind around and ring the exterior side of the housing to generate electric current.

Probable Assignee: BURNS III GORDON CHARLES

Earliest Publication Date: 20151020

79) Family number: 48909731 (US2011115231A)

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HYDROKINETIC ENERGY CONVERSION SYSTEM

Abstract: Source: US2011115231A A hydrokinetic energy conversion system (HKECS) is provided, comprising design configurations suitable for efficient production of tidal or river in-stream kinetic energy into useful mechanical energy for tasks such as generating electricity or water **pumping**. The apparatus includes a set of blades with an airfoil cross sectional contour moving on a horizontal or vertical closed loop track, whereby the blades are propelled through the water by a net tangential lift force, rather than drag, to effectively convert the kinetic energy of flowing water to useful power.

Probable Assignee: NOSTRUM ENERGY PTE LTD

Earliest Publication Date: 20110519

80) Family number: 55191772 (US2013307274A)

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POWER GENERATING WINDBAGS AND WATERBAGS

Abstract: Source: US2013307274A A method of using a bagged power generation system comprising windbags and water-bags for harnessing wind and water power to produce electricity to meet the escalating energy needs of mankind. Windbags integrated with aerodynamically shaped inflatable bodies filled with lighter-than-air gas: HAV, UAV, airplanes; enabling the apparatus to attain high altitude to capture and entrap high velocity wind. Water-bags integrated with hydrodynamic shaped bodies HUV, UUV, Submarine-boats; enabling the apparatus to dive, capture and entrap swift moving tidal-currents. Attached tether-lines pulling on the rotating reel-drums and generators to produce electricity. Active control surfaces, turbo-fans, propellers provide precision control of the apparatus. A system configured to maximize fluids capture, retention and optimized extraction of its kinetic energy. An extremely scalable and environmentally friendly method, system, apparatus, equipment and techniques configured to produce renewable green energy with high productivity and efficiency.

Probable Assignee: SIA YIK HEI

Earliest Publication Date: 20131121

81) Family number: 57403248 (US2014271167A)

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MULTI-STAGE RADIAL FLOW TURBINE

Abstract: Source: US2014271167A A multi-stage radial turbine for usage in energy capture from fluid streams with low to moderate relative speed.

Probable Assignee: FRENCH JOHN

Earliest Publication Date: 20140917

82) Family number: 50640229 (WO12019778A2)

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METHOD AND SYSTEM FOR STORING AND, AS NEEDED, DISCHARGING ELECTRICAL ENERGY

Abstract: The invention relates to a method for storing and, as needed, discharging electrical energy, which proceeds in particular according to the functionality of the system designed according to one of the previous claims and wherein a permanently **magnetic** working means is stored at a predefined elevated position and the permanently **magnetic** working means is moved under the influence of gravity past an in particular stationary electrical conductor, such as a coil assembly, wherein electrical discharge energy is induced in the conductor, wherein the permanently **magnetic** working means circulates in a closed conveyance system between the predefined elevated position and a predefined low position, wherein the permanently **magnetic** working means is conveyed from the low position, in particular solely under the influence of electromagnetic force, to the elevated position, wherein the permanently **magnetic** working means is subject to an electromagnetic field.

Probable Assignee: E ON AG

Earliest Publication Date: 20120216

HOLLOW TURBINE

Abstract: Source: US2005005592A A versatile turbine suitable for both hydraulic and pneumatic applications. The turbine's blades are affixed to the inner surface of a cylindrical shell which is free to rotate about an outside supporting **structure**. Rotational energy is transferred from the outer surface of the rotating cylindrical shell, usually by means of a gear; however, there may be applications better suited for a pulley means of transfer. The vacant central axis of rotation can be closed, by incorporating taller blades to achieve a larger surface area, resulting in greater efficiency, or open, by means of shorter blades forming a hole with the distal edges of the blades, to allow for passing fish and or debris to safely exit. The preferred embodiment further includes a means for electricity generation, water purification, and hydrogen production.

Probable Assignee: FIELDER WILLIAM SHERIDAN

Earliest Publication Date: 20050113

WAVE ENERGY TRANSFER SYSTEM

Abstract: Source: US2011289913A A system and method of wave energy transfer including the generation and capture of waves in a tank filled with liquid is disclosed. The wave energy transfer system comprises wave generation apparatus including a displacement block for generating the waves in the tank, and wave capture apparatus including a buoyancy block for capturing the waves to convert the wave motion and provide fluid flow. The wave capture apparatus may also include an artificial **pump** head for stabilizing the fluid flow provided by the buoyancy block of the wave capture apparatus. Testing apparatus including a tank filled with liquid and wave generation devices is also disclosed.

Probable Assignee: FORSTER WILLIAM

Earliest Publication Date: 20111201

POWER GENERATOR UTILIZING INTERMITTENT FLUID FLOW

Abstract: Source: US2013341931A The invention is a power generator using intermittent fluid flow. The invention facilitates the harnessing of electric power from intermittent wind sources. The apparatus includes panels that are pivotally attached to a frame at a substantially horizontal orientation or are at an acute angle to the horizontal. As wind blows, the panels lift upward relative to the horizontal. Alternatively, the panels may be vertical and attached to an inclined track where the panels move up the track as the wind blows. This motion is transferred to a permanent magnet alternator either via the rotation of a shaft at the pivot point or via a connector rod attached to a leading edge of the panel. The motion may also be transferred by actuating a hydraulic cylinder. This motion pressurizes the cylinder and the pressurized hydraulic fluid may later be transferred into electric power via a hydraulic generator.

Probable Assignee: LOOK FOR POWER LLC

Earliest Publication Date: 20131226

GRAVITATIONAL ELECTRIC POWER PLANT TECHNOLOGY

Abstract: Source: US2013270836A An apparatus, system and methods that on the one hand, maximise work done by gravity, by allowing free fall of an object with a heavy mass to harness energy and output therefrom, and on the other, maximises efficiency by counterbalancing this heavy mass by another similar mass such that only the net difference of the said two masses needs to be worked upon by input power mechanisms in order to lift the fallen object back up to its original position, along the direction of gravity or otherwise, to repeat the cycle. A plurality of such units are employed in synchronised tandem to maintain a steady RPM of the gear/flywheel/shaft connecting a high output generator. Still further, auxiliary energy generation mechanisms to further augment efficiency of the system are disclosed.

Probable Assignee: NISSIN FOODS HOLDINGS CO LTD

Earliest Publication Date: 20120309

IMPROVEMENTS IN AND RELATING TO HYDRO ELECTRIC STATIONS

Abstract: Source: GB387239A 387,239. Driving and controlling dynamo-electric machines; supply systems. BRITISH THOMSONHOUSTON CO., Ltd., Crown House, Aldwych, London.-(Assignees of Alger, P. L.; 1758, Wendell Avenue, Schenectady, New York, U.S.A.) July 15, 1932, No. 20095. Convention date, July 15, 1931. [Classes 35 and 38 (iv).] In an electric generating-plant of the type in which the generators are driven by steam-engines or like prime movers assisted during the hours of peak load by turbines which during the hours of minimum load act as **pumps** to store energy for use during the hours of peak load the turbines run as **pumps** at a considerably higher speed than they do when driving the generator. In the arrangement shown the turbine 12 is coupled to a machine 24 of the type described in Specification 361,369 arranged to run either as a 24-pole or a 36-pole machine and connected to a line 38. When it is desired to run the machine 24 as a generator the gate 18 and blades 21 of the turbine 12 are adjusted for it to run as a motor at a speed of 200 revs. per minute and the machine 24 is connected up to run as a 36-pole generator. At hours of minimum load the turbine is adjusted to run as a **pump** at 300 revs. per minute and the machine 24 is connected to run as a 24-pole motor. Instead of employing a polechanging machine the turbine may be connected to a fixed-pole machine by change-speed gearing.

Probable Assignee: BRITISH THOMSON HOUSTON CO LTD

Earliest Publication Date: 19330202

SCHEME FOR HARNESSING HYDROUNDULATORY POWER

Abstract: Source: US4249084A By means of Water Wave Power acting upon floats, attached to and made part of mechanical contrivances devised within the context of this invention for which the name of HYDRO-UNDULATORY POWER ARRESTERS has appropriately been chosen, water surrounding the **structure** is to be **pumped** positively or forcefully and continuously at that, to locations higher in elevation than the level of the water in the basin where the devices are installed or against a water system which comprises one or more hydro-pneumatic tanks, so that summarily the entire scheme would amount to the building up of potential hydrostatic energy at the expense of Water Wave Power, which under present circumstances is not utilized at all but simply allowed to go to waste. The release of the potential energy of the water thus built up and kept in storage in a reservoir at high elevation or within hydro-pneumatic tanks as aforementioned is an already known PRIOR ART on power generation which for obvious reasons has no place in an application for letters patent exclusively dedicated to absolutely new or novel art, and if the hydro-electric power plant which is PRIOR ART is included for electric power generation, it is so done only as an accessory function to obtain our objective of "CONVERTING WATER WAVE POWER INTO ITS MECHANICAL and ELECTRICAL COUNTERPARTS.

Probable Assignee: FELIZARDO M

Earliest Publication Date: 19800220

89) Family number: 49133564 (US2011156407A)

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METHODS AND SYSTEMS FOR POWER GENERATION BY CHANGING DENSITY OF A FLUID

Abstract: Source: US2011156407A An apparatus for generating energy is provided. The apparatus includes an object for being placed in a fluid. An electrical generator is coupled to the object and is configured for generating electricity upon translation of the object. A gas injector is provided for injecting gases into the fluid to lower the density thereof to less than the density of the object and thereby induce translation of the object to generate electricity by the electrical generator.

Probable Assignee: HOPPER ENERGY SYSTEMS INC

Earliest Publication Date: 20110630

90) Family number: 40809563 (US2009309755A)

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SYSTEM AND METHOD FOR REMOTELY MONITORING AND CONTROLLING A WATER METER

Abstract: Source: US2009309755A A meter that monitors usage of a water distribution system by a client is provided. The meter includes a wireless communications system operable to communicatively couple the meter to a wireless network to provide two-way communication between the meter and the wireless network; a calibration system operable to calibrate the meter, wherein the calibration system may calibrate the meter in response to an instruction received via the wireless network; and a power system operable to maintain a sufficient level of power for the meter to allow substantially real-time communication between the meter and the wireless network.

Probable Assignee: CAPSTONE METERING LLC

Earliest Publication Date: 20071115

91) Family number: 57931652 (FR3006012B)

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HYDROLIENNE A GENERATRICE ELECTRIQUE INTEGREE

Abstract: Source: FR3006012A L'objet de l'invention est une hydrolienne (10) comprenant une hélice (40) et une génératrice électrique (42) intégrée, l'hélice (40) comprenant une embase (46) et au moins une pale (44) fixée sur cette embase (46), l'hydrolienne (10) étant caractérisée en ce que les composants du stator et du rotor de la génératrice électrique (42) sont embarqués de manière étanche dans l'embase (46) de l'hélice (40). The object of the invention is a tidal turbine (10) comprising a propeller (40) and an electric generator (42) integrated, the propeller (40) comprising a base (46) and at least one blade (44) attached to the base (46), hydrokinetic (10) being characterized in that the components of the stator and the rotor of the electric generator (42) are embedded in sealed manner in the base (46) of the propeller (40).

Probable Assignee: CREA CONCEPT

Earliest Publication Date: 20141128

92) Family number: 41742763 (US2008093859A)

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RIVER AND TIDAL POWER HARVESTER

Abstract: Source: US2008093859A An improved tidal and river energy converter having a semi-submerged device designed to harvest energy from the tidal and river sites. Each device is connected to other like devices to form an interconnected array of tidal and river energy devices that are anchored to the shore at right angles to the prevailing tidal and river current. Each device is composed of a supporting floatation hull attached to a submerged strut supporting an air compressor driven by a slow rotating propeller. The air compressor is connected through a streamlined mooring system to the other air compressors in the array and those in turn are connected to a high pressure line leading underwater to an onshore air turbine electric generator connected to the local power grid.

Probable Assignee: CATLIN CS

Earliest Publication Date: 20080424

93) Family number: 33105313 (US2009302611A)

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TURBINE

Abstract: Source: US2009302611A The present invention relates to a marine turbine and variety of aspects relative thereto. Renewable energy systems have recently been understood to be a necessary energy source, and tidal power is a particularly useful source as it is generally not visible and has a limited ecological impact. The present invention relates to a system for converting the kinetic energy of flowing fluid into electrical energy comprising a turbine having a low speed electricity generator and a braking means for controlling the speed of rotation of the shaft. The present invention also extends to a nacelle for housing a number of components of a turbine wherein the nacelle has cover for selectively opening and closing the aperture to the nacelle in order to provide a substantially watertight seal therebetween. The invention also extends to an apparatus for converting energy of a flowing fluid into electrical energy comprising a nacelle having a turbine therein and a lifting means providing a lifting means providing a load flow path between the lifting point, the nacelle and the turbine. A further advantage of the present invention is the ability to easily locate and remove new marine turbine from a useable location. There is therefore provided a turbine and support fixing to the ground, the turbine and support comprising complimentary male and female engaging portions such that when the turbine is lowered onto the support, the male and female portions contact therefore providing an operational engagement therebetween.

Probable Assignee: SWANTURBINES LTD

Earliest Publication Date: 20071031

94) Family number: 56020005 (US2014077497A)

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FLUID-DRIVEN POWER GENERATING APPARATUS

Abstract: Source: US2014077497A A fluid-driven power generating apparatus is a power generator in form pipes with either water wheels or balls with circumferential indents rotating therewithin. The water wheels or the balls are rotated by the fluid flow within the pipes. Each of the water wheels or each the balls has a wheel axle or a ball wheel axle which is encircled by a metal coil. Each metal coil is rotated by the fluid flow within a **magnetic** field produced by the electromagnetic layer attached to each of the pipes. Through the rotations of the metal coil within the **magnetic** field, electricity is thus created and stored in an energy storage device. Another variation of the present invention is a closed-system fluid-driven power generating apparatus with mercury as the driving fluid. The present invention can be incorporated into plumbing, dip, sprinkler systems as well as watercrafts such as ships, submarines, jet skis, etc.

Probable Assignee: LETANG KYLI IRENE

Earliest Publication Date: 20140320

95) Family number: 63490742 (WO18033930A1)

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A SYSTEM AND METHOD FOR POWER GENERATION (STHIR URJA)

Abstract: The system (100) includes one or more **pumps** (102), one or more impeller (106), one or more generator (110), one or more voltage regulator (114), one or more charge controller (116) and one or more battery (118). The present invention uses the kinetic energy of fluid from fluid source, into usable mechanical energy which is then converted into electrical energy. Part of the electrical energy so generated then used to run the one or more **pumps** (102) and the surplus power can be supplied to a one or more loads (116) used for any other domestic or industrial purpose. The fix amount of output voltage will be fed to the one or more **pumps** (102) and make the cycle complete and makes the system (100) self sustaining. The present invention is preferably applicable for small or large scale power generation.

Probable Assignee: PRASHANTA

Earliest Publication Date: 20160902

96) Family number: 46988247 (US2010244450A)

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WIND AND HYDROPOWER VESSEL PLANT

Abstract: Source: US2010244450A The disclosed embodiments relate to wind and hydropower vessel plant configured for generating renewable electrical energy. The wind and hydropower vessel plant comprises apparatus which relates to exposable turbine and/or submersible turbine configuration. Both turbines are incorporated in a system comprising a platform for producing renewable electrical energy that is storable and/or transportable. The disclosed embodiments further include production of hydrogen, methane, oxygen, desalinated water, salt and supplemental energy.

Probable Assignee: TABE JOSEPH AKWO

Earliest Publication Date: 20100930

97) Family number: 68350318 (WO18014923A1)

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SELF-SUFFICIENT HYDRAULIC WHEEL THAT GENERATES MECHANICAL POTENTIAL ENERGY FOR ELECTRICITY PRODUCTION

Abstract: The invention relates to a self-sufficient hydraulic wheel that generates mechanical potential energy for electricity production and forms an electricity generation system. The potential energy contained in a liquid in an upper container (1) causes said liquid to descend from said container, through tubes able to support the pressure exerted by the potential energy, into three intermediate containers (2). From these three intermediate containers (2) project three tubes (6, 7, 8), one from each of the intermediate containers (2). Subsequently, the liquid passes through a **structure**, which could be a hydraulic wheel or turbine, to finally arrive at a lower container (3). The liquid is again raised from the lower container (3) to the upper container (1) through a refilling tube (8).

Probable Assignee: EL NIMER ABOU ASSI AKRAM

Earliest Publication Date: 20180125

98) Family number: 44113405 (US2009302613A)

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POWER GENERATION METHODS AND SYSTEMS

Abstract: Source: US2009302613A Methods and Systems are provided for generating electric power. One method includes the steps of: (a) submerging a housing into a body of water, the housing defining a chamber therein; (b) maintaining the chamber at a pressure lower than the pressure exerted by the body of water on the housing; (c) admitting water from the body of water into the chamber, and driving a turbine with the water flowing into the chamber to generate electric power; (d) discharging water from the chamber into the body of water; and (e) sequentially repeating steps (c) and (d).

Probable Assignee: ULLMAN CARL T

Earliest Publication Date: 20091210

99) Family number: 1531318 (US4159188A)

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DAM WITH REVERSIBLE **HYDROELECTRIC** STATION

Abstract: Source: US4159188A A reversible **hydroelectric** station associated with a dam having a water passageway includes shiftable components selective displaceable to achieve alternately, either an energy generation or an energy accumulation mode. One or more rotatable hydromotive assemblies is provided each having an integral machine hall surrounding a venturi. A pair of diffusers are mounted for rectilinear displacement downstream of the main body of the dam and upstream of the rotatable hydromotive assembly, respectively. Selection of energy mode is achieved by rotating the hydromotive assembly about a vertical axis to position a selected end of its venturi adjacent the dam water passageway and by rectilinearly displacing one said diffuser away from said hydromotive assembly and the other said diffuser into juxtaposition with said hydromotive assembly.

Probable Assignee: GUTIERREZ ATENCIO FRANCISCO JO

Earliest Publication Date: 19790314

100) Family number: 51168454 (US2013277980A)

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WATER FLOW ELECTRICITY GENERATING DEVICE

Abstract: Source: US2013277980A A water flow electricity generating device includes: an annular stator in which a coil is provided; a permanent magnet that causes a **magnetic** force to act on the coil; a rotor main body that is disposed on an inner circumferential side of a stator core to support the permanent magnet; a blade support unit that is provided on a front side of the rotor main body; a rotor that includes a rotating blade projecting radially outward from the blade support unit; and water-lubricated bearings that are provided in the stator while being opposed to the rotor main body, the water-lubricated bearings supporting loads in a thrust direction and a radial direction. The blade support unit is disposed on a front side of the rotor main body, and the rotor includes a float unit that is provided on the front side of the rotor main body.

Probable Assignee: KAWASAKI JUKOGYO KK

Earliest Publication Date: 20120531

101) Family number: 4546058 (US4480966A)

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APPARATUS FOR CONVERTING THE SURFACE MOTION OF A LIQUID BODY INTO USABLE POWER

Abstract: Source: US4480966A Apparatus for converting wave motion at the surface of a supporting medium into usable power and including a buoyant main body 24 forming a housing for a plurality of **pumps** 30 and a float system 28 connected thereto such that wave induced relative motion between the body 24 and the component parts of the float system 28 causes actuation of the **pumps** 30. The **pumps** 30 intake water from the supporting medium and **pumps** it through an effluent conduit 12 to a remote location 16 where it is used to perform useful work. The apparatus can be scuttled during storms, with effective resurrection made possible by using the buoys of the float system to store air, or other fluid, under pressure until needed to purge the buoyant main body of water.

Probable Assignee: OCTOPUS SYSTEMS INC

Earliest Publication Date: 19841106

102) Family number: 46708933 (US2013099496A)

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OCEAN WAVE ENERGY SYSTEM

Abstract: Source: US2013099496A An ocean wave energy system for generating power from ocean waves includes a platform supporting an array of hollow columns whose respective lower ends are in fluidic communication with ocean waves and whose respective upper ends are in air communication with a turbine arrangement such that wave motion occurring at the lower ends is operable to cause air movement within the columns for propelling the turbine arrangement to generate power output. The system further includes one or more position-adjustable and/or angle-adjustable submerged **structures** near the lower ends of the columns for forming ocean waves propagating in operation towards the lower ends of the columns to couple the waves in a controllable manner into the hollow columns.

Probable Assignee: HAVKRAFT AS

Earliest Publication Date: 20111219

103) Family number: 30741405 (WO04008829A2)

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TURBINES UTILIZING JET PROPULSION FOR ROTATION

Abstract: A turbine includes a rotatable vessel and at least one outlet for discharging pressurized working fluid from the rotatable vessel to a lower pressure area to produce jet propulsion for rotating the rotatable vessel. The turbine may also include a shaft having a fluid passage extending through at least a portion thereof for delivering a pressurized working fluid through the shaft to the rotatable vessel. The turbine may further include a ring positioned generally around the vessel within the lower pressure area such that pressurized working fluid discharged from the vessel will contact the ring and rotate the ring in a direction generally opposite to a direction of rotation of the vessel.

Probable Assignee: HUNT ROBERT D

Earliest Publication Date: 20040129

104) Family number: 42979962 (US2011095543A)

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EQUIPMENT OF CONTINUING PNEUMATIC ELECTRIC IMPULSE

Abstract: Source: US2011095543A Patent of utility model for an EQUIPMENT OF CONTINUING PNEUMATIC ELECTRIC IMPULSE composed of vacuum chamber with metallic oval **structure 1**, where two generators **10** and **11** are coupled and fastened, through the axle **9** regarding the generator **10**, with electric exciter **14** and pneumatic piston **19** that commands the equipment start-up; through generator **11** with electric exciter **15**, feeding an electric motor **12** with pneumatic command **20** and field coil **22** performing electric disconnection of the motor set and generator **18**, providing absolute vacuum **13**, giving command in pneumatic piston **19** and electric motor **12**, generating electric power. Through the electric-**magnetic** coupling **5**, (Fig. 2) the vacuum **pump 3** is located producing vacuum as in the first stage of the pneumatic turbine **2** with second stage in the turbine **6** generating high pressure for start-up, and turbocompressor of compressed air **4**, feeding the reservoir of the tubular **structure 7** with fastening bracket **17** and relief valve with calibration spout **16** and transportation handle dovetail **8**.

Probable Assignee: FERNANDO AUGUSTO PACHECO DA CRUZ

Earliest Publication Date: 20090226

105) Family number: 53297336 (WO13075882A1)

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HYDROELECTRIC POWER-PLANT, AND A METHOD FOR THE PRIMARY REGULATION OF A HYDROELECTRIC POWER-PLANT

Abstract: The invention relates to a **hydroelectric** power-plant comprising at least one turbine which is mechanically connected to at least one generator, at least one flywheel storage-system being coupled to said at least one generator, and this flywheel storage-system comprising an electric machine to which a flywheel is connected. Said electric machine and said at least one generator are electrically coupled.

Probable Assignee: VOITH PATENT GMBH

Earliest Publication Date: 20130328

106) Family number: 20439452 (US1951640A)

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DUAL USE HYDRAULIC MACHINE

Abstract: Source: US1951640A 1. A hydraulic rotary machine of a modified Francis turbine type with inside rim mounted upon a main shaft, and having substantially radial innow and slightly diagonal outflow, the rotor blades being mounted movably to the inside rim of the rotor, means to degrees adjust the angular position of the blades while the machine is in operation, said means including suitable mechanical connection of lever arms attached to the pivot of each blade, to a movable shaft, located within the hub of the rotor co-axially with the main shaft and rotatable relatively to the rotor by one or more screw stems, the nuts of which have an outside rim shaped as worm gear, said worm gear being engaged by a worm the shaft of which extends radially to the axis 166 of the rotor and is driven from a shaft extending co-axially through the hollow shaft of the main rotor and connected at the top of the rotor shaft to an electric motor, the stator of which is attached rigidly to and rotates with the main 105 shaft, said motor having slip rings for supplying electric current to rotate the armature of said motor relatively to the main shaft in either direction.

Probable Assignee: ALLNER FREDERICK A

Earliest Publication Date: 19310707

107) Family number: 53007955 (US2013038058A)

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METHOD AND APPARATUS FOR GENERATING ELECTRICITY

Abstract: Source: US2013038058A An electrical generator apparatus for generating electrical energy is disclosed. The electrical generator utilizes liquid flow within a tubular member to provide mechanical force to rotate a rotor. The electrical generator includes a rotor comprising an impeller, wherein the rotor is configured to receive liquid flow within an electromagnetic induction armature from the tubular member, a stator configured to generate electrical energy within a plurality of coils utilizing a **magnetic** flux generated by the electromagnetic induction armature when rotated adjacent to the stator, and a bypass tubular member configured to selectively route liquid around the electrical generator to adjust voltage of generated electrical energy.

Probable Assignee: WIELAND MICHAEL

Earliest Publication Date: 20130214

108) Family number: 31424537 (WO04113717A1)

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WATER TURBINE AND LIQUID PUMP

Abstract: Apparatus with a water turbine or water **pump**, especially a tube-type turbine (2) with two or more wheels (25, 26) rotating independently of each other and placed successively in the axial direction, especially with mutually opposite blade slopes. The wheels (25, 26) are each coupled to a generator or motor, which is arranged to be controlled mutually independently in regard to rotational speed and electrical power.

Probable Assignee: SINVENT AS

Earliest Publication Date: 20041227

109) Family number: 49623468 (EP2369170B1)

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WAVE ENERGY POWER PLANT

Abstract: The wave- or impulse power station (1) has multiple plane adjacently arranged floating bodies (2) which are driven by waves (10) move along the guides (4) and are oscillating independent to each other. The guides are connected with each other such that form a common stiff support **structure** (6) overstretching the floating bodies so that the kinetic energy of the respective floating body is transferred to energy conversion devices by transmission elements. Each floating body of multiple floating bodies is individually pre-tensioned against the support **structure** by elastic elements (8).

Probable Assignee: SINN PHILIPP

Earliest Publication Date: 20110928

110) Family number: 42440958 (US2008264063A)

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PLANETARY IMPROVEMENT MOTOR

Abstract: Source: US2008264063A The Planetary Improvement Motor uses new thermodynamic ideas that redefine heat **pumps** and engines with an immaculate engine and **pump** design that can replace nearly all engines and **pumps** with one basic, simple design. The Planetary Improvement Motor can save the planet if you let it. WOW! YOU MUST BE LIKE A PHYSICIST OR SOMETHING TO COME UP WITH SUCH A GREAT IDEA? Actually, "No, I have never been interested in medicine. I am an artist, this is my art."

Probable Assignee: DIEGO

Earliest Publication Date: 20081030

111) Family number: 59282890 (EP2873853B1)

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ANLAGE ZUR NUTZUNG VON WELLENENERGIE, INSBESONDERE ZUR HERSTELLUNG VON ELEKTRISCHER ENERGIE PLANT FOR EXPLOITING WAVE POWER, PARTICULARLY FOR THE PRODUCTION OF ELECTRICAL ENERGY

Abstract: Source: EP2873853A1 Plant for exploiting wave power, particularly for the production of electrical energy, provided with a float (16) which moves, guided laterally, in a large-diameter guide tube (1,1') with its lower end immersed in the sea and the other end facing upwards, fixed to any suitable support means and provided laterally with at least one window (7) positioned at sea level, in which said float is normally located and through which the wave enters to raise and lower the same float. Said float is axially integral with a movable duct (14) which extends downwards to draw water from the sea through suction valve means (15) and which crosses said float to allow entry into the same of a fixed **pumping** duct (11) which, via discharge valve means (12), is connected at the top to a fixed pipe (9) positioned on the upper end of said guide tube (1,1') for delivery of the water **pumped** by said system of fixed and movable ducts (11,14) operated by the float (16) and provided with said valve means (12,15). Said fixed pipe (9) and/or said fixed duct (11) will be sustained by a supporting **structure** (3,10) positioned in the upper surfaced part of said guide tube (1,1') so that by easily acting on said supporting **structure** (3,10), the **pump**-float assembly can be removed for maintenance and the inside of said guide tube (1,1') can be accessed for all maintenance and/or cleaning requirements.

Probable Assignee: BOZANO ENRICO

Earliest Publication Date: 20150520

112) Family number: 49656537 (US2013062889A)

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VARIABLE ELECTRICAL GENERATOR

Abstract: Source: US2013062889A A variable electrical generator (20) is operable to convert mechanical motion to electrical power. The generator (20) includes at least a stator element (60) and a rotor element (50) including coils (320) and magnets (90). The generator (20) includes a configuration of modules (80) including the coils (320) for generating wavelets (30) in response to the coils (320) interacting magnetically with the magnets (90), and a control arrangement (70) for combining the wavelets (30) for generating a composite synthesized power output (10) from the generator (20). A method of maintaining a variable generator (20) includes steps of: (a) determining operating status of modules (80) of the generator (20); (b) unplugging and replacing one or more defective modules (80) as identified in step (a). The generator (20) is susceptible to being used in renewable energy system, for example in a tidal water turbine, in a wind turbine, in association with an oscillating wind vane, in association with an ocean float, in a **hydroelectric** turbine, in a steam turbine.

Probable Assignee: ADAPTIVE GENERATORS AS

Earliest Publication Date: 20110929

113) Family number: 50641598 (US2012038165A)

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SYSTEM AND METHOD FOR GENERATING POWER IN A DAM

Abstract: Source: US2012038165A A system and method for generating power in a dam are provided. Water passing through a water channel is directed into an exit channel. The water channel converges with the exit channel. Exhaust gases from a heat engine are expelled into the exit channel. The exhaust gases from the heat engine are then used to pull the water, decreasing a pressure of the exit channel. The decreased pressure causes the dam to act as though the head of dammed water were higher than the head mechanically is.

Probable Assignee: CARLOS RENE

Earliest Publication Date: 20120216

114) Family number: 68333389 (US2018023410A)

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ENGINE, ROTARY DEVICE, POWER GENERATOR, POWER GENERATION SYSTEM, AND METHODS OF MAKING AND USING THE SAME

Abstract: Source: US2018023410A An engine, a rotary device, a power generation system, and methods of manufacturing and using the same are disclosed. The engine includes a detonation and/or combustion chamber configured to detonate a fuel and rotate around a central rotary shaft extending from the detonation and/or combustion chamber, a fuel supply inlet configured to provide the fuel to the detonation and/or combustion chamber, at least two rotating arms extending radially from the detonation and/or combustion chamber and configured to exhaust detonation gases from detonating the fuel in the detonation and/or combustion chamber and provide a rotational thrust and/or force, the rotating arms having inner and outer walls and a nozzle at a distal end thereof, the nozzle being at or having an angle configured to provide the rotational thrust and/or force, and a plurality of cooling coils between the inner and outer walls. Alternatively, the rotary device may include a rotary disc.

Probable Assignee: LEE BRENT WEI TEH

Earliest Publication Date: 20180122

ELECTRICAL ENERGY GENERATOR BASED ON BUOYANCY

Abstract: Source: US2009167031A This invention relates to an apparatus and method for generating electrical energy in a body of water. The apparatus and method relates to the effective conversion and storage of electrical energy which is analogous to a **pumped** storage system for generating electricity with **hydroelectric** power. The present invention includes an elongate stator assembly which, in use, is immersed in a body of water and having a plurality of electrical induction coils located thereon. The elongate stator assembly being secured in a substantially vertical position in the body of water using a base unit which is fixed to a seabed or the bottom of the body of water; the upper part of the elongate stator assembly being secured to a floatation buoy. The present invention also comprises a movable shuttle means which is coaxially coupled to the elongate stator assembly. The movable shuttle means having a plurality of permanent magnets disposed therein such that a **magnetic** flux is generated by the plurality of permanent magnets which intersects with the plurality of electrical induction coils located on the elongate stator assembly. The movable shuttle means also includes buoyancy control means for cyclically controlling the depth of the movable shuttle means in the body of water such that the movement of the movable shuttle means relative to the elongate stator assembly induces a voltage in the plurality of electrical induction coils. The present invention also describes a method of operating an electrical energy generator in which, during the hours of low power consumption, electrical energy is taken from the power supply to charge the buoyancy control means and, during the hours of peak power consumption, the depth of the movable shuttle means is cyclically controlled and the voltage induced in the plurality of induction coils is extracted and converted and supplied to the power grid. In use, a plurality of electrical energy generators can be linked together to provide a significant energy-dense source.

Probable Assignee: SEATEK ENERGY LTD

Earliest Publication Date: 20061228

SYSTEM AND METHOD FOR EXTRACTING POWER FROM FLUID USING A TESLA-TYPE BLADELESS TURBINE

Abstract: Source: US2010129193A Smooth, preferably variable-sweep fluid collection device surfaces disposed into opposition with wind, river, surf, ocean or tidal currents generate enhanced velocity fluid flows at length driven into onboard work-extracting disc turbines at advantageous angles of attack. Keyed to shafts turning freely through optionally extendable volutes, disc turbines comprising a dense population of smooth, axially fixed or adjustably spaced discs conducting preferably laminar flow between adjacent elements develop significant torque through boundary layer adhesion and viscous shear-stress between fluid layers. Exhaust of disc turbine throughput into divergent channels drafting into external currents of initially higher than ambient velocity and lower pressure may reduce turbine discharge backpressure, rapidly clear system throughput, and allow normally disadvantageous drag to be utilized to develop greater work generation. Gainfully turning with, instead of at odds to natural or anthropogenic currents provided, disc turbines utilized as disclosed may provide unprecedented renewable energy from fluids in motion.

Probable Assignee: SHERRER GORDON D

Earliest Publication Date: 20081113

A FLOATING WAVE ENERGY CONVERSION SYSTEM

Abstract: Source: IN01635CH2011A A system and method for an effective conversion of wave energy to electrical energy are disclosed. A floating wave energy conversion system for an effective conversion of wave energy to electrical energy includes a metal housing including at least one first predefined **structured** chamber including at least one electrical energy generating unit, at least one second predefined **structured** chamber including at least one electrical energy converting unit. The at least one electrical energy generating unit including at least one copper strip, at least one cylindrically **structured** rotor, at least one first stator plate, at least one second stator plate. The at least one second predefined **structured** chamber including at least one first rectifier, at least one buck boost operated switched mode power supply, at least one unidirectional protection relay unit, at least one buck converter, at least one second rectifier and at least one excitation regulating unit.

Probable Assignee: DAMACHARLA LAKSHMI VENKATA NAGA PRAVEEN

Earliest Publication Date: 20110527

POWER GENERATING FLOATING VESSEL

Abstract: Source: US2013229014A The present invention pertains to **hydroelectric** generation devices, and more particularly pertains to a fixed or floating paddlewheel electric generation device that may be placed in any flowing liquid source in order to generate power. Such an overall power generating system includes a paddlewheel component that is situated within an artificial channel properly configured to increase the velocity of the flowing liquid therethrough, thereby providing a manner of generating paddlewheel rotation at a speed greater than that relative to the main body of the fluid itself. Such an efficient process thus allows for effective conversion of such hydrokinetic power into mechanical energy in order to couple to a device to produce electricity from such captured power. The resultant electrical energy can then be supplied to a user's individual location or into an electrical grid in order to supply a clean, efficient, power source.

Probable Assignee: WILLINGHAM MARJORIE

Earliest Publication Date: 20130530

GRAVITY DRIVEN HYDRO-ELECTRIC SYSTEMS

Abstract: Source: US977699B A gravity driven **hydroelectric** system, whereby **hydroelectric** power is developed from potential energy of dammed water driving a water turbine assembly. The **hydroelectric** power extracted from the water depends on volume and on a difference in height between a source and an outflow of the water. A penstock delivers the water to the water turbine assembly. The penstock has a housing secured by frame assemblies to a **structure**. The housing has electromagnetic coils that produce electricity from a rotation of turbine blades having magnets.

Probable Assignee: DECADY ROBILLARD

Earliest Publication Date: 20171003

120) Family number: 61838780 (US2018106236A)

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SUBMERSIBLE POWER GENERATION PLATFORM

Abstract: Source: US2018106236A Discloses herein a submersible power generation platform. The submersible power generation platform a power generation unit (10) including blades (11) configured to be rotated by flowing water (1) and a generator (13) configured to receive rotational force and to generate electricity; a frame (20) configured to fasten the power generation unit (10) therein so that the blades (11) are disposed toward a front location from the flowing water (1) enters; a pair of buoyant objects (30) configured to be disposed on both sides of the frame (20), and to float the frame (20); and one or more fastening ropes (40) configured to fasten the buoyant objects (30), wherein one end of each of the fastening ropes (40) is coupled to a balance center portion on the outer surface of a corresponding one of the buoyant objects (30) or an upstream portion of the buoyant object (30).

Probable Assignee: LEE DONG IN

Earliest Publication Date: 20160304

121) Family number: 11629954 (US5921082A)

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MAGNETICALLY POWERED HYDRO-BUOYANT ELECTRIC POWER GENERATING PLANT

Abstract: Source: US5921082A A hydro-buoyant electrical power generating plant is provided which generates electricity from a source of hydraulic pressure. The energy that pressurizes the hydraulic fluid is derived from movements of a crane-like class II lever that has its fulcrum fixed to a stationary land mass so that the fulcrum's position is fixed relative to the lever's opposite "movable" end where the applied load is established. The movable end of the lever is attached to an "applied force vessel" that alternatively can be filled with water (or other liquid) so as to sink due to gravity, and then can be evacuated of water so as to rise due to buoyancy. When the applied force vessel is at its position of greatest elevation, the interior chamber of the vessel initially would be filled with air, typically at atmospheric pressure. Valves mounted to the bottom and top of the vessel are then opened to allow liquid to enter the vessel from beneath the vessel, thereby allowing the vessel (and its attached lever) to sink to its point of least elevation. At its uppermost position, the vessel of the preferred embodiment is floating, and thereby displacing its own weight. While the vessel is sinking, the mechanical motion of the attached lever creates power that will be used to drive linear hydraulic actuators (e.g., double acting single ended actuators), that in turn will be used to displace and pressurize a hydraulic fluid. This hydraulic fluid can then be taken directly to a hydraulic motor which can be used to drive an electrical generator, or the pressurized fluid can be stored indefinitely in hydraulic accumulators. Once the applied force vessel reaches its bottom-most position, the valves below and above the vessel are closed, and multiple submersible pumps attached around the vessel's bottom surface periphery begin to pump the liquid that is presently contained within the vessel out to the surrounding medium (i.e., the infinite liquid). As the liquid is pumped out of the vessel, the vessel becomes buoyant, and a buoyancy stroke can now be started and the entire lever and vessel structure begins to rise in the vertical direction. While the vessel is rising, the mechanical motion of the attached lever creates power that again will be used to drive the double acting linear hydraulic actuators.

Probable Assignee: BERLING JAMES T

Earliest Publication Date: 19990713

122) Family number: 48383171 (BRMU8901215U)

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DISPOSICAO DE TUBULACAO DE SUCCAO INVERTIDA DE SAIDA DE TURBINA HIDRAULICA DE USINA HIDROPNEUMOELETRICA DISPOSAL OF TUBING OF INVERTED SUCTION OF EXIT OF HYDRAULICAL TURBINE OF HIDROPNEUMOELETRICA PLANT (MACHINE TRANSLATION)

Abstract: Source: BRMU8901215U DISPOSICAO DE TUBULACAO DE SUCCAO INVERTIDA DE SAIDA DE TURBINA HIDRAULICA DE USINA HIDROPNEUMOELETRICA pertencente ao setor eletrico, resolvendo problemas de usinas hidreletricas do estado da tecnica, sendo essa disposicao compreendida por tubulacao (41) de saida da turbina hidraulica (10) com uma tubulacao de succao invertida (53) de saida, onde e conectado o bocal final (54) de saida da turbina hidraulica (10), aberto no sentido de baixo para cima, sendo que a tubulacao (41) de saida se conecta na bomba (42) de recalque com motor eletrico (63), sendo que o compressor (66) com motor eletrico (72) e tubulacao (71) se conecta na tubulacao de conexao em T (49), sendo esta disposicao aplicada em usina hidropneumoeletrica (1) movida com utilizacao e reutilizacao da agua captada e devolvida no fundo de recurso hidrico de poco, tanque, caixa, piscina, cisterna, deposito, reservatorio, acude, barragem, represa, lago, lagoa, rio, mar e oceano do globo terrestre, usando a forca da bomba (42) de recalque e compressor (66) para criar movimento de agua que move a turbina hidraulica (10) e gerador eletrico (60), formando corrente de agua e de bolhas de ar na tubulacao de saida da turbina hidraulica e dentro da aguado recurso hidrico, que sobem para superficie sendo novamente reutilizados, gerando energia eletrica para autoconsumo da usina e consumo das populacoes e atividades economicas, com utilizacao da agua e ar como fontes de recursos naturais reutilizaveis de energia.

Machine translation: DISPOSAL OF TUBING OF INVERTED SUCTION OF EXIT OF HYDRAULICAL TURBINE OF pertaining PLANT HIDROPNEUMOELETRICA to the sector electric, deciding problems of hidreletricas plants of the state of the technique, being this disposal understood for tubing (41) of exit of the hydraulical turbine (10) with a tubing of inverted suction (53) of exit, where and connected the final nipple (54) of exit of the hydraulical turbine (10), opened in the low direction of for top, being that the tubing (41) of exit if connects in the bomb (42) of it stresses with electric engine (63), being that the compressor (66) with electric engine (72) and tubing (71) if it connects in the tubing of connection in T (49), being this disposal applied in moved hidropneumoeletrica plant (1) with use and reutilizacao of the water caught and returned in the deep one of hidrico resource of well, tank, box, swimming pool, watering hole, I deposit, reservoir, dam, barrage, dam, lake, lagoon, river, sea and ocean of the globe, using the gallows of the bomb (42) of stresses and compressor (66) to create water movement that moves the hydraulical turbine (10) and electric generator (60), forming current of water and air bubbles in the tubing of exit of the hydraulical turbine and inside of the watery hidrico resource, that go up again for surface being reused, generating electric energy for autoconsumo of the plant and consumption of the populations and economic activities, with use of the water and air as sources of reutilizaveis natural resources of energy.

Probable Assignee: MAGLIA JOAO BATISTA

Earliest Publication Date: 20110222

123) Family number: 8429837 (US4302683A)

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REACTION ENGINE DRIVEN ELECTRICAL GENERATING SYSTEM WITH POWER LOAD VARIATION CONTROL CAPABILITY

Abstract: Source: US4302683A A reaction engine driven electrical generating system comprising an electrical generator having an armature and a reaction engine driven to rotate the armature for generating electricity. The reaction engine drive includes a generally cylindrical housing with an internal truncated cone which internally divides the housing into two sections. A drive shaft extends generally horizontally into the housing and a reaction force rotation unit carrying a plurality of reaction engines is mounted upon the drive shaft. An enlarged air port is fashioned within one end of the housing and cooperates with an air inlet disc fixedly connected to the drive shaft. A plurality of air inlet apertures extend through the air inlet disc and air conduits connect the inlet apertures directly to corresponding intakes of said plurality of reaction engines. A monitor is operably connected to the armature or drive shaft and serves to provide a readout of speed of rotation of the drive shaft and generator armature. A fuel control is then modulated by the speed monitor to control the fuel flow to the reaction engines and maintain a generally constant armature speed over varying conditions of electrical load.

Probable Assignee: BURTON VON L

Earliest Publication Date: 19811124

124) Family number: 5103796 (US5136173A)

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OCEAN WAVE ENERGY CONVERSION SYSTEM

Abstract: Source: US5136173A An ocean wave energy conversion system comprising a float adapted to ride on the surface of the ocean in reciprocal vertical motion in response to ocean wave front action, first support means extending downward from the float deeper into the ocean; and, magnetohydrodynamic electric generator means mounted to the first means at a level of attenuated vertical wave action in the ocean, the generator comprising a duct arranged to channel the flow of sea water vertically therethrough in response to the reciprocal vertical motion of the float, second means including **magnetic** field elements for applying a strong **magnetic** field cross-wise to the longitudinal axis of the duct and the flow of sea water therethrough, electrode means positioned in the duct and in contact with the flowing sea water therethrough such that the electrode means receives electrical energy generated by magnetohydrodynamic phenomenon as the sea water passes upwardly and downwardly in a relative manner through the **magnetic** field, and transfer means connected to the electrode for conveying the generated electrical energy outward from the magnetohydrodynamic electric means generator to an external electric load.

Probable Assignee: SCIENT APPLIC AND RESEARCH ASSOC

Earliest Publication Date: 19920804

125) Family number: 57882430 (EP2837817A1)

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VORRICHTUNG ZUR ENERGIEGEWINNUNG AUS WELLEN, SOGENANNTES WELLENKRAFTWERK DEVICE FOR RECOVERING SO-CALLED WAVE POWER ENERGY FROM A SWELL

Abstract: Source: EP2837817A1 La presente invention concerne l'energie de la houle recuperee puis transformee en energie electrique. Une ossature rigide horizontale « semi flottante » submergee relie moult systemes identiques consistant en un petit flotteur lenticulaire (1) actionnant individuellement un alternateur electrique special a l'aide d'une transformation du mouvement alternatif vertical en un mouvement rotatif unisens regularise, concretise par une vis verticale non tournante reliee au dit flotteur (1), et par un ecrou rotatif (10) relie au dit alternateur electrique. L'ensemble est quasi totalement immerge, puisque seuls les dits nombreux flotteurs (1) sont en surface actionnees par la houle. Les avantages procures sont les suivants: - Actif meme a faible houle car elements mobiles de petites dimensions donc tres agiles - Sans appui cotier ni au fond couteux et si difficile a etabli - Flottant donc: insensible au marnage et protege des coups de mer car submerge, halable a tirant d'eau reductible - Rendement energetique electro magnetique exceptionnel - Modulaire d'ou extensible et facile a construire et a entretenir - Leger et economique - Peu visible donc n'affecte que tres peu l'image idyllique naturelle de la mer tout a preserver The present invention relates to the energy of the recovered swell and then transformed into electrical energy. A rigid horizontal frame "semi floating" submerged connects moult identical systems consisting of a small float lenticular (1) individually activating a special electric generator by means of a transformation of vertical reciprocating motion into rotary motion Unisens regularized, embodied by a non-rotating vertical screw connected to said float (1), and by a rotatable nut (10) connected to said electric generator. The whole is almost totally immersed, since only said many floats (1) are OPERATED surface swell. The benefits procures are: - Active even at low swell as mobile Elements small so very agile dimensions - without support or the coastal bottom expensive and difficult to establish - Floating thus: insensitive to tidal and protects sea blows because overwhelms, halable a draft water reducible - energetics exceptional efficiency electro **magnetic** - of or Modular scalable and easy to build and maintain - Leger and economic - so little visible only affects very few natural idyllic image of any sea to preserve

Probable Assignee: WINDECK CLAUDE

Earliest Publication Date: 20141121

126) Family number: 25228656 (CH342046A)

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MAGNETISCHE ENTLASTUNGSEINRICHTUNG FUER DAS TRAGLAGER DER VERTIKALEN WELLE ELEKTRISCHER GROSSMASCHINEN **MAGNETIC** DEVICE FOR THE DISCHARGE LOAD BEARING THE VERTICAL SHAFT ELECTRIC BIG MACHINE (MACHINE TRANSLATION)

Abstract: Source: CH342046A (Claim 1) 1. Magnetische Entlastungseinrichtung nach Pa tentanspruch I, dadurch gekennzeichnet, dass die auf das Gegenlager ausgeubte magnetische ueber schusskraft bei aenderungen der nach unten gerichteten Kraefte der Maschine durch Regelung des Erreger stromes der Magnetkraft geregelt wird.

Machine translation: (claim 1) 1 **Magnetic** balancing device as claimed Pa tentanspruch I characterized, in that the force exerted on the thrust bearing **magnetic** excess force for changes to the downward forces of the machine by controlling the excitation current of the **magnetic** force is controlled.

Probable Assignee: SIEMENS AG

Earliest Publication Date: 19591031

127) Family number: 43588828 (US2009193799A)

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HYDRAULIC GRAVITY HARVESTER

Abstract: Source: US2009193799A A Hydraulic Gravity Harvester is disclosed; having a plural of slip buckets, each slip bucket has a piston that works with a valve that is connected to the lower end of each piston; each slip bucket reciprocates vertically within a cylinder. When the valve is in the closed position and the slip bucket is on the down stroke, it creates a positive pressure in the cylinder pushing fluid up to a reservoir positioned high above the slip buckets. Each slip bucket on the down stroke is connected so that the opposite valve is in the open position and on the up stroke, so the weight of the fluid that has pushed this slip bucket down now rest on the bottom of the cylinder. This allows the slip bucket that is on the down stroke to turn a shaft creating a rotational torque.

Probable Assignee: LEBLANC CURTIS R

Earliest Publication Date: 20090806

128) Family number: 5572086 (US4109160A)

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CONTROL SYSTEM FOR **HYDROELECTRIC** POWER STATION SYSTEM

Abstract: Source: US4109160A In a control system for a **hydroelectric** power station system including upper and lower water reservoirs connected through a water channel, an intermediate water reservoir having a smaller storage capacity than those of the upper and lower reservoirs and provided on the water channel in cascade with the upper and lower reservoirs, and two power stations disposed between the upper and intermediate reservoirs and between the intermediate and lower reservoirs, respectively, the control system is arranged such that the water level of the intermediate reservoir is detected continuously and the detected value of the water level is used to correct the load instructions which are applied to the power stations for controlling outputs of the power stations whereby the water level of the intermediate reservoir is maintained substantially constant, while the power generation of the power stations is controlled so as to satisfactorily meet with the load instruction applied to the power system.

Probable Assignee: HITACHI LTD

Earliest Publication Date: 19770218

129) Family number: 50641575 (US2012038162A)

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AIRFLOW GENERATOR

Abstract: Source: US2012038162A Converting an air flow into a source of electricity by an airflow generator includes disposing the airflow generator in an air flow path of a machine for receiving the air flow to rotate a turbine bladed portion of the airflow generator that causes a plurality of permanent magnets disposed along the circumference of the bladed portion to cyclically move in close proximity to a plurality of fixed position stator coils thereby generating electrical currents in the coils that can be harvested.

Probable Assignee: US GREEN ENERGY SOLUTIONS LLC

Earliest Publication Date: 20120216

130) Family number: 50248298 (IN03006CH2008A)

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SYSTEMS AND METHODS FOR SUSTAINABLE, MEGA, POWER MULTIPLIER CUM CONTINUOUS SELF HYDRO POWER GENERATION ALLIED AQUATIC VESSELS APPLICABILITY- MAJOR SOLUTIONS TO GLOBAL WARMING,

Abstract: Source: IN03006CH2008A Low cost, non polluting, green electrical energy is the global need of the hour. Hydropower qualifies to meet such a requirement, but fails on grounds of lack of flow of water and suitable heads. Tapping out power from unutilized vast hydro sources like seas, oceans, lakes and improvisations in existing sources, could be the best strategy to boost up hydro power status, to a dominant position, against polluting thermal and risk prone nuclear power productions. The invention facilitates, such scope for sustainable **hydroelectric** power, by way of a novel fluid recycling possibility back into the hydro source (stagnant or flowing) thereby providing inexhaustible hydro energy. The invention comprises of the following basic units viz. (A) Water source/Reservoir, (A-IFB-Intermediate fore bay on land (optional), (B) withdrawal pipes with gates below reservoir surface, (C) Downward fluid transport pipe, (D) Turbine unit interlinked to generator (E) Bottom collection tank with gates (optional), (F) Upper head fluid collection tank (Optional) with gates, fed by (G) **Pumping** unit from reservoir surface, (H) Upper Head Downward Fluid flow Diffusion Discharge Facilitation **Tower** Tract (UDFDDFTT) with special optional mechanisms to improve fluid discharge rate back into the down head reservoir, (I) An optional multipurpose Emergency reservoir, (K) (an optional attachment to H) Vertical Up flow Fluid Exit Chimney for overflow discharge (with or without bye-pass link to G. Functioning of units A, B, C, D, E, F, G, H, I and K calls for input power from grid to G/H, whereas the provisions at (J) unit assembly leads to continuous self power generation. Other than power generation, the invention is applicable to aquatic / marine vessels propulsion also. Apart from drastic, augmentable power generation improvement, the invention totally solves global power crisis problems and brings forth barest minimum chances for global warming.

Probable Assignee: SUBRAMANIAM UDHAYAMARTHANDAN

Earliest Publication Date: 20111223

131) Family number: 58130631 (BR202013008841U)

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TURBINAS HIDRAULICAS EM EQUILIBRIO COM A NATUREZA HYDRAULIC TURBINES IN BALANCE WITH NATURE (MACHINE TRANSLATION)

Abstract: Source: BR202013008841U 1 RESUMO "TURBINAS HIDRAULICAS EM EQUILIBRIO COM A NATUREZA " AS TURBINAS HIDRAULICAS EM EQUILIBRIO COM A NATUREZA fazem parte de uma importantissima tecnologia para concepcao 5 de projetos de energia hidrica, O objetivo dessa patente e mostrar uma nova tecnologia, e nao apenas itens, mas sim o funcionamento e suas vantagens sobre os sistemas ja existentes. O sistema possui inumeras vantagens, e nao possui os mesmos problemas que o sistema tradicional apresenta, e sim solucoes em perfeito encaixamento com a natureza, sem efeitos negativos ao longo do funcionamento. Com o novo conceito e possivel aproveitar todas as forcas hidraulicas disponiveis naturalmente ao longo dos rios e correiros desde os correiros, ate o rio entrar para o mar. A escala de montagem podera ser em fileiras, o que proporciona um encaixamento perfeito, como sera explicado em frente. Com isso sera possivel utilizar as forcas hidraulicas inumeras 15 vezes, em perfeito encaixamento. Cada vez que um local se encaixa perfeitamente em um dos sistemas, o sistema de turbinas hidraulicas em equilibrio com a natureza consegue, pelo conceito, criar uma situacao ideal, utilizando todas as forcas hidraulicas, e em seguida transformando em energia eletrica, em cada local de instalacao, em serie, utilizando distancias 20 necessarias naturalmente. 1 SUMMARY "TURBINES HIDRAULICAS IN BALANCE WITH NATURE" TURBINES HIDRAULICAS IN BALANCE WITH NATURE part of a very important technology for conception 5 of hydro power projects, the purpose of this patent and show a new technology, and not only items, but the function and its advantages over the already existing systems. The system has numerous advantages, and not have the same problems as the traditional system presents, but solutions for perfect embedding with nature without negative effects to 10 throughout the operation. With the new concept it is possible to enjoy all the hydraulic forces available naturally along rivers and streams from the streams, until the river entering the sea. The fitting range may be in rows, which provides a perfect nesting, as will be explained forward. Thus it will be possible to use the hydraulic forces numerous 15 times in perfect nesting. Each time a location fits neatly into one system, the system of hydraulic turbines in balance with nature can, by concept, creating an ideal situation, using all the hydraulic forces, and then transformed into electrical energy, at each site of installation, in series, using 20 distances necessary course.

Probable Assignee: HOFFMANN JOHANN

Earliest Publication Date: 20141209

132) Family number: 58998641 (CA2829885A)

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VACUUM-PUMP GENERATING SYSTEM

Abstract: Source: CA2829885A Vacuum-pump generating system has water-tank, vertical suction-tube split at top and merged downward into discharge-tube and turbine electric-generator. Water in suction-tube is held by atmospheric pressure at water-tank level and upward up to closed valves. Split-tubes have two valves each which alternate, and valve at merge simultaneously driven by driving-belt. When first valve is closed, second is open and freefalling water-column is creating vacuum in tube behind. By opening first and closing second valve, water from suction-tube rapidly flows to fill vacuum causing "water-hammer". Second valves have "water-hammer" driven motors which alternate to drive driving-belt. Closed second valves accommodate air-flow from air-tube which connects them. Freefalling water-columns are further guided into discharge-tube by valve at merge. Freefalling water-columns in split-tubes are alternating in order to form steady freefall flow in discharge-tube which drives turbine electric-generator.

Probable Assignee: KASTRATOVIC DEJAN

Earliest Publication Date: 20150409

133) Family number: 63665342 (US2016281679A)

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FLUID DRIVEN ELECTRIC POWER GENERATION SYSTEM

Abstract: Source: US2016281679A A fluid powered electrical generator system for hydroelectric use or mountable to the side of vertical, man-made structures. The system can be rotatably mounted to the side so that as wind approaches and passes through the generator it will remain oriented to capture wind as it changes direction. The system includes a tubular housing that can also include PV material. A fixed helical vane can be formed onto an inner surface of the tubular housing in a spiral and direct wind more directly onto a fan blade assembly located within the tubular housing before an exhaust. A cone can be mounted at the center and front of a fan blade assembly facing wind passing through the tubular housing. Wind can experience compression between the generator cone and housing resulting in increased pressure and velocity, thereby increasing rotational speed of generator blades as the compressed, spiraled fluid passes through and exits the tubular housing.

Probable Assignee: BACA ANTHONY MICHAEL

Earliest Publication Date: 20160929

134) Family number: 34857834 (WO07076837A2)

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MULTIPART WIND POWER, OCEAN CURRENT POWER EXTRACTION PLANT

Abstract: The invention relates to many design variations of wind lasers which use a small, quickly rotating strip system (d) only at the end of a multistage flow optimization and jet generation process (a, b, c). Advantageously, no rotating part can be seen or heard from outside such that large or small, low-noise wind lasers are tolerable near residential areas. Small inexpensive, easily rotatable strip system units can be operated in all wind situations around the clock if large-volume flows are concentrated to a compact jet size by means of inexpensive flow magnifiers. Admixed particles increase the density of the jet generated by a particle flow laser and thus the driving effect thereof on the strip system, static charges being generated by flowing particle circuits. Following the example of lightning generated during a thunderstorm, a steady current flux is generated without using an expensive generator, resulting in unbelievable yield increases and extremely low-priced electricity. Material resources no longer need to be burned to generate power and can be used more sensibly instead to build wind lasers and particle flow lasers. Climate protection and environmental protection globally become financially.

Probable Assignee: LIEBCHEN LARS GUNNAR

Earliest Publication Date: 20070712

135) Family number: 57414120 (US2014262524A)

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DOWNHOLE TURBINE MOTOR AND RELATED ASSEMBLIES

Abstract: Source: US2014262524A A turbine drive may include a rotor that includes multiple turbine blades arranged in one or more turbine stages, as well as a stator cooperating with the rotor to direct fluid against the turbine blades and convert hydraulic, kinetic energy into rotational energy. The rotor may be fixed to the shaft to rotate synchronously therewith. The stator may be formed of multiple components that can be coupled together to define the stator and encompass the turbine blades of the turbine stages of the rotor. Two stator halves may each include vanes for positioning above and below a corresponding turbine stage, to direct fluid against the turbine blades. The stator may also be connected to a housing that encompasses the stator. Longitudinal slots and tabs on the stator and housing may hold the stator stationary relative to the housing.

Probable Assignee: SMITH INT INC

Earliest Publication Date: 20140918

136) Family number: 58497978 (WO15018914A1)

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RIVER TURBINE

Abstract: The invention relates to a river turbine (1) which comprises a fairing (3), a generator (22) that is driven by a first turbine wheel (5) and is housed in a volume formed by the fairing so as to generate an electric current when a first stream of water (9) sets the first turbine wheel in rotation, a passage for a second stream of water (10) that passes through the fairing (3) without passing through the first turbine wheel, and also a second turbine wheel (7) designed to exert a **pumping** action on this second stream of water (10). The passage of the second stream of water (10) is designed to cause the water to accelerate through the first turbine wheel.

Probable Assignee: OPTYDRO CONCEPT S RL

Earliest Publication Date: 20150212

137) Family number: 43084736 (US2011316276A)

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POWER CAPTURE SYSTEM AND METHOD

Abstract: Source: US2011316276A A wave power capture system, comprises a fluid transfer conduit for connection to a wave energy conversion device such that, in operation, the wave energy conversion device pressurizes fluid in the fluid transfer conduit in response to wave motion; a turbine apparatus arranged to receive fluid from the fluid transfer conduit; at least one sensor for sensing pressure and/or flow rate of the fluid; a variable opening valve for controlling the rate of flow of fluid from the fluid transfer conduit to the turbine apparatus; a controller for controlling operation of the variable opening valve in dependence upon the pressure and/or flow rate of the fluid sensed by the sensor and/or the speed of rotation of the turbine apparatus; and an electrical power generation system for obtaining electrical power from operation of the turbine apparatus.

Probable Assignee: AQUAMARINE POWER LTD

Earliest Publication Date: 20100721

138) Family number: 62910349 (US2016201642A)

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HYDROELECTRIC POWER SYSTEMS AND RELATED METHODS

Abstract: Source: US2016201642A Some embodiments include a system. The system includes a conduit system having a conduit system volume. The conduit system can convey a fluid through the conduit system volume of the conduit system. The system also includes at least one **pumping** mechanism operable to drive the fluid through the conduit system volume, at least one turbine operable to extract energy from the fluid conveyed by the conduit system and driven by the **pumping** mechanism(s), and at least one generator coupled to the turbine(s) and operable to generate electricity from the energy extracted by the turbine(s). The **pumping** mechanism(s) are configured to be powered by a first portion of the electricity and the system makes a second portion of the electricity available to one or more electrical loads. Other embodiments of related systems and methods are also disclosed.

Probable Assignee: HARTFORD JR GERALD D

Earliest Publication Date: 20160714

139) Family number: 57991403 (WO14196921A1)

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A WATER BASED MODULAR POWER PLANT

Abstract: The present invention relates to a water based modular power plant system (100) comprising a basic mounting **structure** with a central platform (10), a number of renewal energy collecting modules (10;80;90;115A) with means at least for harvesting water based energy sources and adapted for driving an electric power production system comprised in a power generating system. It further comprises a hydrogen production module system comprising an electrolysis system for producing hydrogen and, a hydrogen storage and/or distribution system, a multiple gear transmission module system arranged for interconnection of energy collecting modules (10;80;90;115A) with the power generating system. A control system is provided to allow controlling activation or connection of at least energy collecting modules based on given criteria, hence enabling optional selection and operation of one or more renewable energy collecting modules for at least partly simultaneous operation in any combination for constantly feeding the power generating system for direct and/or indirect production of electric power and/or for feeding the hydrogen production module for indirect production of electric power.

Probable Assignee: SCANMEDIATOR

Earliest Publication Date: 20141211

140) Family number: 33611369 (DE102005020257A1)

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WIND POWERED ELECTRICITY GENERATORS USING VERTICAL AXIS TURBINES STACKED INSIDE A PYLON AND WITH OPTIONAL **PUMPED** STORAGE SYSTEM

Abstract: A wind powered electricity generating system has vertical axis turbines (B) stacked inside the envelope of a pylon to drive a generator and to supply power directly into the transmission lines via a control unit. The system can also be combined with a **pumped** storage system with energy peaks used to **pump** water to a high reservoir to drive water turbines, e.g. to cover troughs in the power supply. The **pumped** storage systems can be integrated into the pylon or can be positioned near to the pylon, depending on topography.

Probable Assignee: BORK NORBERT

Earliest Publication Date: 20061108
Family number: 46802336 (US2010223922A)

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"CLOSED LOOP" ECONOMY OF MOTION MACHINE

Abstract: Source: US2010223922A A means and apparatus for fluid containment providing for closed loop operation of an apparatus within a column of liquid. The apparatus extracts power from a buoyant source within the contained column of liquid and is comprised of an endless chain of movable buoyant objects, a means to convert the movement of the chain into useful work and a tank filled with a constant volume column of liquid. The buoyant objects comprising the chain sequentially enter the bottom of the liquid column through an airlock seal of the current invention, move up through the column and emerge at the surface. The emerging buoyant objects leave the tank and are directed to the tank bottom where each buoyant object repeats the cycle. As the chain of buoyant objects cycles through the displaced column of liquid, the volume of liquid remains constant, with one buoyant object of the chain entering the bottom of the liquid column as one is exiting at the top surface. The invention provides for closed loop operation of the apparatus and increased control fluid flow rates within the apparatus to addresses liquid leakage due to mechanical wear at seals and to provide a controlled method for removal of friction generated heat within the apparatus. Chambered sections within the apparatus create fluid flow restriction zones where differential pressure can be controlled to further reduce the force requirement for injecting each buoyant object (a.k.a. displacing element) into the bottom of the contained column of liquid.

Probable Assignee: MCGAHEE WELBOURNE D

Earliest Publication Date: 20100909

Family number: 62613665 (WO17093826A1)

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RECIPROCATING HYDRAULIC SYSTEM

Abstract: The invention relates to a reciprocating hydraulic system. Said system is a motor mechanism which uses the forces of buoyancy and gravity to simultaneously move two physical bodies in opposite directions, along a vertical column of liquid, in order to carry out a task and/or produce energy in an environmentally friendly manner. The system can be configured such that the bodies move like pistons inside respective ducts submerged in a reservoir, or such that they move like underwater vessels via a column of water, guided via an open vertical **structure**. When the pistons move via ducts, they form two twin, symmetrical and siamese reciprocating **pumps**, and when they move in open conduits they form rotary machines. The reciprocating effect is achieved by reconfiguring the bodies, when they finish their ascending and descending travel, for the purpose of changing their densities. The uniform movement is achieved by supporting the bodies via their base, using steel cables, belts and/or chains which pass via pulleys or pinions that invert the direction of the forces. The bodies are synchronised such that one rises while the other falls. The ascending body pulls or submerges the descending body.

Probable Assignee: RUEDA RINCON MARCO ANTONIO

Earliest Publication Date: 20160310

Family number: 1395964 (US4023866A)

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ICE BEARING

Abstract: Source: US4023866A A thrust or support bearing arrangement with means for forming a frozen layer of lubricant thereon to define a reduced-friction running surface for a member to be supported thereby. The formation of a frozen layer of lubricant in sealing arrangements and the use of such bearings and seals in turbines or **pumps** are also described.

Probable Assignee: ATENCIO F

Earliest Publication Date: 19730910

Family number: 55317767 (US2013341935A)

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RECLAIMING ENERGY FROM WASTE WATER IN TALL BUILDINGS

Abstract: Source: US2013341935A Electrical power is generated from falling liquids such as captured rain water, gray water and black water in tall buildings using two or more reservoirs. Fill valves for each of the reservoirs are controlled to fill the first reservoir in a raised position while emptying the second reservoir in a lowered position. When full, the first reservoir is dropped to the lowered position while imparting mechanical energy to an electrical generator and while raising the second reservoir. Next, the second reservoir is filled until full while the first reservoir is emptied, followed by dropping the second reservoir to the lowered position while imparting mechanical energy to the electrical generator and while raising the first reservoir. The cycle is repeated so that electrical generation from the falling of the liquid avoids the liquid contacting or passing through a turbine or impeller.

Probable Assignee: IBM

Earliest Publication Date: 20131210

Family number: 63366647 (DE102015002508A1)

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**HARRER-TURBINE, UNTERDRUCK-SIEDE-WASSER-KRAFTWERK MIT SIEDESTROMTURBINE ZUR STROMERZEUGUNG UND ALS MECHANISCHER ANTRIEB. WASSERKRAFTWERK UNTER NUTZUNG VON UNTERDRUCK UND REDUZIERTER SIEDETEMPERATUR
HARRER TURBINE, VACUUM SIEDE WATER POWER PLANT WITH SIEDESTROMTURBINE FOR ELECTRICITY AND AS OPERATOR ARM. WATER POWER PLANT UNDER USE OF VACUUM AND REDUCED BOILING TEMPERATURE (MACHINE TRANSLATION)**

Abstract: Source: DE102015002508A1 Vorrichtung zur Erzeugung von elektrischem Strom und/oder mechanischer Bewegungsenergie, dadurch gekennzeichnet, dass eine Unterdruckvorrichtung eine Flüssigkeit bereits bei geringer Raumtemperatur zum Sieden bringt und dadurch eine Blasenstroemung, Flüssigkeitsstroemung, Kraft und Druck ausgelöst und deren Energie genutzt und umgewandelt wird. Device for generation of electricity and / or mechanical energy of motion, characterized in that a vacuum device to boiling brings Liquid even at low ambient temperature and thereby a Blasenstroemung, Flüssigkeitsstroemung, force and pressure triggered and whose energy is used and converted.

Probable Assignee: BARREN FRANK
Family number: 22561060 (US2824716A)

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MECHANISM FOR LIMITING RUNAWAY SPEED OF ADJUSTABLE BLADE TURBINES

Abstract: Source: US2824716A (Claim 1) 1. A hydraulic turbine comprising a runner having pivotally adjustable blades thereon, the blades and pivots thereof being so connected that said blades are hydraulically unbalanced for movement toward the open positions of said blades at speeds above normal, and normal positioning means utilizing hydraulic pressure which varies in proportion to the speed of the turbine, said means being interconnected with said blades and operable normally to maintain said blades in desired positions of operation and vary the same to produce a desired turbine output at normal speed, in combination with runaway speed limiting mechanism interconnected with said normal positioning means und including mechanism responsive to the hydraulic pressure thereof and operable upon said pressure attaining a predetermined amount at speeds of the turbine above normal to free the blades from the control of said normal positioning means and permit the said hydraulic unbalance of said blades to move the same' toward said open positions thereof, thereby limiting the runaway speed of the turbine to a value corresponding lo that of the open position of the blades to which they have been moved by said hydraulic unbalance.

Probable Assignee: MORGAN SMITH S CO

Earliest Publication Date: 19580225

147) Family number: 3066333 (US4845376A)

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BUOYANT GAS ACTIVATED HYDROELECTRIC GENERATOR

Abstract: Source: US4845376A A self contained hydroelectric generator which includes two fluid tanks mutually connected to a turbine generator. A volume of fluid is transferred between the tanks by either an elevator or a weight positioned within the first fluid tank. The elevator or weight is raised and lowered by inflating and deflating low density gas balloons connected thereto. As the elevator or weight is lifted by the inflated balloons, fluid is transferred from the first tank into the second tank. As the fluid moves from one tank to the other through the turbine generator, the turbines impellers rotate to cause the generator's armature to rotate within a magnetic field to produce electricity.

Probable Assignee: BENDIKS DONALD J

Earliest Publication Date: 19890704

148) Family number: 48165263 (US2011011086A)

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WATER PISTON ENGINE

Abstract: Source: US2011011086A The present invention relates to an apparatus, suitable for generating energy in an aquatic environment. A preferred embodiment has at least two water piston assemblies connected to a power transfer system, such as a crankshaft or a rack and pinion drive. Each water piston assembly has a water container that slides within a casing. The casing controls the presence of water within the piston assemblies though a system of doors that opens and closes to assist with water intake and expulsion within the water container. Furthermore, the water container has ports which allow water to drain from the water container onto a water exit assembly. The water is then preferably channeled toward a generator or a turbine that converts the kinetic energy of the water flow into an electrical energy.

Probable Assignee: MEGARO ANTHONY T

Earliest Publication Date: 20110120

149) Family number: 62233466 (US2016123439A)

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PIVOTING ARM FOR KINETIC ENERGY GENERATION DEVICE AND METHODS OF USING SAME

Abstract: Source: US2016123439A A device is provided that converts random movement of extrinsic oscillation into purposeful movement, such as torque or other motion that can be used to generate electricity. This device may include but is not limited to two major components: 1) a collection unit and 2) a transmission unit. The collection unit represents the interactive part of the device that interfaces with an extrinsic body which provides the randomized kinetic motion that drives an articulating arm, and may include a series of connected pivoting arms of different lengths. The transmission unit is the portion of the device that converts the random motion of the articulating arm into unidirectional rotation of a shaft that is converted into purposeful torque. The device may be placed in almost any type of environment to take advantage of any type of kinetic motion, including water, wind, mechanical movement and even human movement.

Probable Assignee: BARRETT KEVIN M

Earliest Publication Date: 20160505

150) Family number: 54254747 (GB2517018A)

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IMPULSE GENERATOR

Abstract: Source: GB2517018A An electrical generator comprises at least one piezoelectric block 20 and an actuator 3, 4 which is movable to provide a force to the piezoelectric block 20. The actuator may be a diaphragm 3a, with a thrust plate 4 for contacting the piezoelectric block 20. The block 20 may be mounted to a lower housing 5 which may be sealed to an upper housing comprising a parabolic reflector 7. There may be an aperture 8 in the upper housing, which allows water, e.g. from waves, to enter the upper housing and actuate the diaphragm 3a to apply force to the piezoelectric block 20. The diaphragm may be replaced by a piston.

Probable Assignee: F X K PATENTS LTD

Earliest Publication Date: 20150211

CURRENT GENERATION DEVICE FOR PIPELINE

Abstract: Source: US2016226340A The device for generating an electrical current, intended for a pipeline includes a pipe element (1), a rotor (2) suitable for being set in motion by the fluid and a stator (3a, 3b) arranged to cooperate with an end of the rotor (2) opposite to an axis of rotation (4) of said rotor (2) in order to generate the electrical current. The axis of rotation (4) is mounted at its opposing longitudinal ends (4a, 4b) on first and second supports (5a, 5b) arranged on either side of the plane of rotation (P1) of the rotor (2) and each linked to the pipe element (1). The stator has at least one ring (3a) arranged on one side of the rotor (2), and each ring (3a, 3b) includes a circuit suitable for generating all or part of the electrical current when excited by a **magnetic** element of the rotor (2).

Probable Assignee: SAVE INGENIERIE

Earliest Publication Date: 20150306

RAISED WEIGHT GRAVITY GENERATOR

Abstract: Source: GB2551177A A falling mass may be used to generate electricity by harvesting the kinetic energy of the mass as it descends. In a first embodiment a weight 1 is located above and to a plunger shaft 2 having a helical outer form thereon which engages with a corresponding spiral form on a rotor 3. The shaft is contained within a support housing 6. As the mass descends the shaft 2 rotates and spins rotor 3 and associated gears 4 to control the rpm of the rotor. A pair of discs contain an electrical generator 5 and a programmable logic controller 39. The mass may be a solid weight or a container of water. The mass may be allowed to fall in a controlled manner when desired and then may be raised back to its original position by use of a number of movable supports 8 powered by off peak surplus electricity or by utilizing renewable sources including, wind, solar, wave or tidal means 9. In a further embodiment the mass may take the form of a water tank that also contains a weight. The device may generate power in similar manner as above but in addition it produces electricity via a **hydroelectric** dynamo Fig 2, 18 as water is released from the tank. Off peak power may be used to replenish the tank.

Probable Assignee: GARSTIN EDWARD A M

Earliest Publication Date: 20171213

FLUID-DRIVEN POWER GENERATING APPARATUS

Abstract: A fluid-driven power generating apparatus is a power generator in form pipes with either water wheels or balls with circumferential indents rotating therewithin. The water wheels or the balls are rotated by the fluid flow within the pipes. Each of the water wheels or each of the balls has a wheel axle or a ball wheel axle which is encircled by a metal coil. Each metal coil is rotated by the fluid flow within a **magnetic** field produced by the electromagnetic layer attached to each of the pipes. Through the rotations of the metal coil within the **magnetic** field, electricity is thus created and stored in an energy storage device. Another variation of the present invention is a closed-system fluid-driven power generating apparatus with mercury as the driving fluid. The present invention can be incorporated into plumbing, dip, sprinkler systems as well as watercrafts such as ships, submarines, jet skis, etc.

Probable Assignee: LETANG KYLI IRENE

Earliest Publication Date: 20150806

BEARINGS.

Abstract: Source: GB1265151A 1,265,151. Bearings. ENGLISH ELECTRIC CO. Ltd. 5 March, 1969 [5 March, 1968], No. 10673/68. Heading F2A. [Also in Divisions F1 and H2] An hydraulic turbine or **pump** comprises a rotor rotatably mounted on a fixed stub shaft 88, the rotor hub 94 on which the blades 6 are mounted comprising cylindrical liner members 100, 101 whose internal surfaces form the bearing surface of the hub. The outer surface of the stub shaft is formed with reosses on pockets 109 in which bearing pads 134 are disposed, there being three pads at the upper half and one pad at the lower half. Openings are provided through the pads for the passage of lubricant. Recesses 114 in the thrust flange 114 are similarly provided with pads and lubricant supply.

Earliest Publication Date: 19720301

APPARATUS FOR CONVERTING THE ENERGY OF A CURRENT OR OF THE FLOW MOVEMENT OF A FLOWABLE MEDIUM INTO A MECHANICAL MOVEMENT.

Abstract: Source: GB2002456A A pickup member (1) projects into the flowing medium (4) so as to extract therefrom flow movement energy. The pickup member (1) is formed as a profiled body which has, at desired section planes extending transversely to its longitudinal axis, a respective cross-section with continuously and smoothly extending curvature of the periphery and is mounted for oscillating pivotal motion about an axis (2-2') under the influence of the fluid flow. The pickup member (1) is in operative association with a device to be influenced. The operative association can be of a **magnetic**, capacitive piezoelectric or optical kind. The device may be utilised in an aircraft jet engine, to propel ships, or in a flow meter.

Probable Assignee: FRANZ STUMMER

Earliest Publication Date: 19790102

SEA WAVES POWER PLANT COMPRISES FLOAT, WHICH IS PROPELLED BY PISTON LEVER OF LARGE DIMENSIONED SINGLE-PISTON-SEA WAVE **PUMP THAT **PUMPS** SEA WATER INTO DAM WITH HIGH PRESSURE THROUGH PIPELINE**

Abstract: The sea waves power plant comprises a float, which is propelled by a piston lever of a large dimensioned single-piston-sea wave **pump** that **pumps** the sea water into a dam (18a) with high pressure through a pipeline (16). The elliptical shaped float is strengthened at the lower semi-ellipse, and is connected with a piston lever power transmission system.

Probable Assignee: BUZDIMIROVIC BRANKO

Earliest Publication Date: 20110310

157) Family number: 49721956 (GB2493233A)

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DIFFERENTIAL DENSITY MOMENTUM GENERATOR

Abstract: Source: GB2493233A A horizontal tube 1 is fitted with helical stators or vanes 2 (figure 1a). The density of the fluid on one side of the tube is modified e.g. by heating (figure 1d) or by injecting air bubbles to cause the fluid to rotate or tumble within the tube. This circumferential movement produces axial flow because of the screw stators 2. This provides a thermally powered **pump** with no mechanical moving parts. Figure 3a shows the **pump** with heating and cooling jackets and a density modifier fluid injected into the **pump** cavity using **pumps** 14 enabling useful work to be performed.

Probable Assignee: SOMERS DAVID I J

Earliest Publication Date: 20130130

158) Family number: 56256645 (US8701410B)

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BALLISTIC IMPULSE TURBINE AND METHOD

Abstract: Source: US8701410B In one aspect, the invention provides a method for rotating an impeller device. Said method comprises (a) positioning at least one ejector tube to eject a working fluid onto the impeller device; (b) locating a kinetic droplet in an ejector tube; (c) introducing a charge of vapor into the ejector tube behind the kinetic droplet so that expansion of the vapor in the ejector tube causes the kinetic droplet to accelerate out of the ejector tube and to impinge on the impeller device; and (d) repeating steps (b) and (c) in a synchronized fashion.

Probable Assignee: MILES MARK W

Earliest Publication Date: 20140422

159) Family number: 6360209 (DE3716093A1)

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CYCLIC PROCESS FOR EXTRACTING TECHNICAL WORK FROM THE EARTH'S GRAVITATIONAL FIELD

Abstract: Source: DE3716093A1 The invention concerns a cyclic process for converting gravitational field energy into technically utilisable energy by means of a liquid mass, e.g. water, guided vertically in a cycle, in particular for driving water turbines, and for generating electricity in stationary power stations via electrical generators. The precondition for extracting technical work from the earth's gravitational field is that the mass of liquid to be accelerated reaches a higher speed and thus a higher kinetic energy due to gravity than a solid mass of equal weight, e.g. a metal ball, would reach from the same height of fall. This precondition is achieved according to the invention with a liquid mass, e.g. water, by accelerating it vertically downward one after another and independent of one another by means of gravity, on the basis of the superposition principle. This is done by first accelerating it from a state of rest out of a round opening in the bottom of a storage vessel at constant gravitational pressure head h_0 with the gravitational pressure acceleration a_0 ($a_0 > g$) to the static initial velocity v_0 , and then the resultant jet of liquid in a guide tube open on both sides with a cross-section continuously adjusted to the speed of fall... Original abstract incomplete.

Probable Assignee: GENSWEIN ALFONS DIPL ING FH

Earliest Publication Date: 19880128

160) Family number: 42409736 (US2008258471A)

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GRAVITY BASED POWER GENERATOR

Abstract: Source: US2008258471A A system and method for a gravity-driven powered generator having at least one envelope filled with a buoyant gas is provided. The gas containing envelope has an escape valve allowing a portion of the buoyant gas within the container to escape. When a critical amount of gas has escaped from the envelope, the envelope descends along a support beam via gravity. The descending envelope is connected to a power generator. A valve on a reservoir containing the buoyant gas is then opened and the gas may refill the envelope. The filled envelope containing the buoyant gas then rises with respect to the outside environment. The rising envelope then ascends along the support beam until a portion of the gas in the envelope is released and the process repeats itself.

Probable Assignee: KARIM SYED

Earliest Publication Date: 20081023

161) Family number: 44330202 (WO10015061A2)

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SLIDING HYDRAULIC TURBINE

Abstract: The sliding Hydraulic Turbine for generating electricity, which includes an automatic operating system, with control sensors for rotation, vibration, temperature, flow and water level, monitored at distance by several cameras positioned at strategic points. The turbine has a central valve with blade movement type at the bottom of the housing in order to control the flow of water passing that exerts hydraulic pressure on the flexible blades arranged in the outer perimeter of the rotor, thus starting rotation and the consequent production of electricity. The turbine, designed in modular components, allows us to produce various possible assembly combinations. Its rotation produces natural oxygenation of water caused by the flexible blades, thereby providing benefits to microorganisms and all aquatic species.

Probable Assignee: JOHANN HOFFMANN

Earliest Publication Date: 20100211

162) Family number: 31003185 (US2004189009A)

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ELECTRICAL ENERGY GENERATION SYSTEM

Abstract: Source: US2004189009A An electricity generation system configured for generating electrical energy from potential energy comprises a support frame, an actuator, a counterweight, a hydraulic assembly, a multiple pulley system and an elevating motor. The hydraulic assembly includes an accumulator, a hydraulic turbine and a generator. The counterweight is attached to the piston rod. The elevating motor is configured to alternately raise and lower the counterweight with the aid of the multiple pulley system, disposed between the counterweight and the support frame, in order to reciprocate the piston rod within the interior chamber such that the hydraulic fluid may be circulated through the hydraulic assembly. The accumulator receives and pressurizes hydraulic fluid from the actuator and releases it to the hydraulic turbine such that the hydraulic turbine may be rotated. The generator is rotatably driven by the hydraulic turbine and converts its rotational motion into electricity.

Probable Assignee: GALICH THOMAS P

Earliest Publication Date: 20040930

163) Family number: 6962721 (US4114046A)

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ELECTRICAL GENERATOR EMPLOYING NATURAL ENERGY TO POWER SAME

Abstract: Source: US4114046A This invention concerns an improved turbo-electrical generator powered by the conversion of natural energy into mechanical energy in order to propel ferromagnetic blocks about an irregularly, non-circular shaped closed loop track, alternately entering and passing through a plurality of electromagnets positioned about the track. As these blocks enter and pass through these electromagnets, their **magnetic** flux is maximized and then minimized and this change is converted into useable A.C. voltage. Means are taught for the conversion of solar energy, wind energy and wave energy into the necessary mechanical energy to propel these blocks about the closed loop. An alternative embodiment employs a rotatable, ferromagnetic cross shaped device which is rotated about a center axis by the passage of the blocks about the track. As the device is rotated, its extremities enter and pass through the electromagnets positioned about the track.

Probable Assignee: YOUSEF HOSNI LABIB

Earliest Publication Date: 19780912

164) Family number: 1053438 (FR2282543A)

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GROUPE DE MACHINES, NOTAMMENT HYDRAULIQUES, A AXE VERTICAL SHAFT BEARINGS FOR VERTICAL GENERATING SETS - RADIAL PROPS WITH EXTREME ENDS RESTING RESILIENTLY AGAINST MACHINE WELL WALLS

Abstract: Source: FR2282543A (Claim 1) 1. Groupe de machines, notamment hydrauliques, a axe vertical qui est place dans un puits ou batiment et dans lequel les paliers de support et le carter de la machine reposent isolement ou en commun sur la fondation, cependant qu'entre le carter et/ou les paliers de support et la paroi du puits ou batiment sont places des etais repartis uniformement le long du pourtour et relies aussi bien au carter ou au palier de support qu'a la paroi, groupe de machines caracterise par le fait que des elements de ressort a amortissement elastique sont inseres, dans les parties fixes dudit groupe de machines, en des emplacements d'appui. Water driven turbines with vertical shafts have to be designed usually for speeds below the critical speed because of the complexity of the seating arrangement. To counteract possible uneven running of the set, rigid radial stiffenings are used resting against the wall of the wall. Due to the expected thermal expansion of these stiffenings the success of this measure becomes doubtful. The present arrangement envisages the seating of the extreme ends of the stiffenings with an antivibration element (26) on which the extreme leg (24) rests. Alternatively the stiffener ends adjacent to the shaft also can be fitted with antivibration mountings (21). A further possibility is to place the bearer (11) with antivibration mountings at its ends on a baseplate, which too is fitted with antivibration mountings.

Probable Assignee: SIEMENS AG

Earliest Publication Date: 19760304

165) Family number: 1858083 (GB2137285A)

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VORTEX TURBINE

Abstract: Source: GB2137285A The turbine is operable by wind or water and comprises a spiral casing arranged to set up a vortex flow in a bladed rotor contained in the casing, the flow exhausting from one end of the rotor in an axial direction.

Probable Assignee: VAUGHAN B C

Earliest Publication Date: 19841003

166) Family number: 43248087 (DE102007053440A1)

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FLUID TURBULENCE GUIDING DEVICE, HAS GUIDING BODY COMPRISING OPENING FORMED ALONG LONGITUDINAL EXTENSION, WHERE OPENING EXTENDS IN PLANE WHOSE NORMAL VECTOR IS ARRANGED PERPENDICULAR TO LONGITUDINAL AXIS OF GUIDING BODY

Abstract: The device has a tubular guiding body (1), where the device is formed with multiple arrangements. Turbulence of fluid is guided toward a longitudinal axis of the guiding body. The guiding body has an opening (6) formed along a longitudinal extension. The opening extends in a plane whose normal vector is arranged perpendicular to the longitudinal axis of the guiding body. Driving radiation nozzles are arranged for guiding the fluid at the opening or in the guiding body. The guidance body has cylindrical, ellipsoid or more-sharp-edged cross section. An independent claim is also included for a method for guiding turbulence of fluid.

Probable Assignee: ARMAND GUNTER

Earliest Publication Date: 20090520

167) Family number: 23295280 (DE10055973A1)

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PROCESS FOR REGULATING AND SMOOTHING THE POWER OUTPUT OF AN OFFSHORE POWER STATION E.G. WIND FARM COMPRISES CONVERTING STORED HYDROGEN AND OXYGEN OR AIR ENRICHED WITH OXYGEN INTO ELECTRICAL

Abstract: Process for regulating and smoothing the power output of an offshore power station close to the coast comprises producing oxygen and hydrogen in the gas state by electrolysis; storing the hydrogen produced and optionally the oxygen produced in a storage unit; converting the stored hydrogen and oxygen or air enriched with oxygen into electrical energy; and injecting the electrical power into a collecting rail (8) which connects the power units (1) and the energy storage devices (10) to momentarily smooth and raise the total power output in addition to the power of the power station. An Independent claim is also included for a device for regulating and smoothing the power output of an offshore power station close to the coast. Preferred Features: A low or high pressure electrolysis process is used for producing gaseous oxygen and hydrogen, in which the oxygen and hydrogen are pre-compressed in separate compressors (11) before being fed to the storage devices.

Probable Assignee: ABB RESEARCH LTD

Earliest Publication Date: 20020523

168) Family number: 59879660 (US2015204302A)

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TRIMMING RIGHT-ANGULARLY REORIENTING EXTENDING SEGMENTED OCEAN WAVE POWER EXTRACTION SYSTEM

Abstract: Source: US2015204302A Combination of machinery and processes in the field of compound, segmented floating platform apparatus for oceanic wave power conversion consisting of a buoyant semi-submersible segment pivotally joined to an Interlinking Segment with their relative movement restricted to oscillate in one or more planes, wherein the buoyant semi-submersible segment provides means for controlled, graduated altered pitch of its main axis' facing direction between horizontal and vertical orientations. The addition, subtraction, redistribution or linear acceleration along the primary axis of components of varying relative specific gravity cause the submersible end to rise, reorienting the facing angle. Preferred embodiments include reorienting segments joined serially or radially and interlinked to second elements, and extensible lengthwise for adjusting natural resonance. Methods are disclosed for reorienting, trimming and harmonic tuning both of single apparatus and in arrays, so as essentially to compose a multitier distributed information system controlled in automatic, command, and neural network modes.

Probable Assignee: KALNAY PETER ANDRES

Earliest Publication Date: 20150723

169) Family number: 44859446 (GB2477124A)

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INLINE TURBINE OR **PUMP ALSO ACTING A STOP VALVE**

Abstract: Source: GB2477124A A device, eg a shaft-less inline turbine or **pump**, for insertion into fluid pipes functions additionally as a stop valve. The device may comprise a rotor 111 inside a casing 400. The pitch of the rotor blades 201 is preferably adjustable, eg collectively by means of toothed gearing, in order to allow the device to act as a valve. Electrical power may be extracted by means of magnets 109 on the rotor 111 interacting with conductive coils in a stator 405. The fluid may provide a dynamic bearing 303 between the rotor 111 and the casing 401.

Probable Assignee: UNIV LANCASTER

Earliest Publication Date: 20110727

170) Family number: 52578120 (WO12168414A1)

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METHOD, APPARATUS AND SYSTEM FOR REDUCING VIBRATION IN A ROTARY SYSTEM OF A TOOL

Abstract: A method of reducing vibration in a rotary system of a tool, comprising balancing said rotary system, characterized by providing a rotational element comprising a chamber having a fulcrum on a rotational axis of said rotational element, comprising a circumferential balancing area and being partially filled with an amount of a thixotropic balancing substance. A corresponding apparatus and system.

Probable Assignee: CARNEHAMMAR LARS BERTIL

Earliest Publication Date: 20121213

171) Family number: 11614298 (US5324169A)

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OSCILLATING, LATERAL THRUST POWER GENERATOR

Abstract: Source: US5324169A An apparatus for power production from low velocity fluid flow includes a lateral support arm assembly extending from a vertical drive shaft. A power blade is pivotally secured to the distal end of the support arm, and constrained to pivot within a defined operating angle. The center of force on the power blade is proximal to the power blade pivot, so that at the limit of travel of the support arm the thrust on the power blade moves the power blade into an over-center position, causing the power blade to pivot in retrograde fashion. The pivoted power blade then drives the support arm away from the extreme position, through a neutral position, to the opposite angular position, where the process reiterates and reverses. Thus the lateral support arm is driven continuously in oscillating, lateral motion. An exciter blade joined to the proximal end of the support arm creates a force that augments the torque created by the power blade, and drives the arm past the over-center point of the power blade, causing the power blade to rotate and drive the arm retrograde toward the neutral position. A latch maintains the exciter blade aligned with the arm as it pivots from the neutral (midline) position toward the angular limit of the arm.

Probable Assignee: BROWN GEORGE L

Earliest Publication Date: 19940628

172) Family number: 61599790 (GB2544347A)

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LOW COST UNDERWATER TURBINE

Abstract: Source: GB2544347A An underwater turbine 1 for generating electrical power from water with an augments 2, 4, consisting of two nozzles interconnected by a cylinder duct 3, a rotor hub 10 having a plurality of twisted blades 11 attached by the tip to a magnet support ring 46 that rotates about a stationary coil support ring 47 with coils 49, surrounded by a two part ducting 43. A power cable 22 connects the apparatus to an onshore power distribution system. There are support vanes 12 between the outer ducting cylinder and the two part ducting around the generator. Bearings 45 allow bi-directional rotation of the rotatable hub, the hub shaft, the plurality of blades and the magnet support ring. The open faces of the augments cones are fitted with releasable mesh cones 13, 41 that minimise foreign object ingestion into the rotating blades. The apparatus floats on the water surface using pontoons 31, 32 secured using anchors 36, anchors cables 35 and anchor cable tensioners 38, 39, 40. There are actuators 15, 16, 17 to lift the turbine above the water surface. The apparatus is preferably for river and estuary deployment and is driven by river and tidal currents.

Probable Assignee: SMITH RODNEY AND SMITH JONATHAN

Earliest Publication Date: 20170517