# CONTINUED FROM PART 2

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| (54) Title of the invention : TWO-ELEMENT SYSTEM TO PROVIDE AN EASE OF ACCOMMODATION WITH VARIABLE-SфеRICAL ABERRATION |

| (51) International classification : A61F2/16; G02B3/00; A61F2/16; G02B3/00 |
| (31) Priority Document No : 60/976,947 |
| (32) Priority Date : 02/10/2007 |
| (33) Name of priority country : U.S.A. |
| (86) International Application No Filing Date : NA |
| (87) International Publication No : NA |
| (61) Patent of Addition to Application Number Filing Date : NA |
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| (57) Abstract : |
In one aspect, the present invention provides a two-element ophthalmic lens in which a lateral shift of the elements relative to one another can cause a variation not only in a spherical power provided by the lens but also in spherical aberration exhibited by that lens. In some implementations, the thickness profiles of the two elements are designed such that the variation in spherical aberration is positively correlated with that of the spherical power of the lens.

No. of Pages : 22  No. of Claims : 14
The present invention generally provides multifocal ophthalmic lenses, e.g., multifocal intraocular lenses, that employ a central refractive region for providing a refractive focusing power and a diffractive region for providing two diffractive focusing powers. In many cases, the refractive focusing power provided by the lens’s central region corresponds to a far-focusing power that is substantially equal to one of the diffractive focusing powers while the other diffractive power corresponds to a near-focusing power. As such, in many cases, the focusing properties of the lenses are dominated by the far-focus ability, especially for small pupil sizes.

No. of Pages : 40 No. of Claims : 30
Abstract:
Embodiments of the invention relate for rendering translucent objects. According to some embodiments, the color of a pixel of a translucent object that is not directly illuminated by a light source can be determined by decaying the illumination contributed by the light source according to a predefined decay function. The decay function may be, for example, an exponential decay function. The decay function may be evaluated based on an initial illumination contributed by the light source, and a transmittance distance. In some embodiments, the initial color of the pixel is decayed instead of the illumination. Also disclosed is modifying the renderings of different regions of an object which have been rendered using different methods in order to remove sharp contrasts between these regions.
Title of the invention: METHOD AND APPARATUS TO MONITOR A FLOW MANAGEMENT VALVE OF AN ELECTROMECHANICAL TRANSMISSION

International classification: G06F7/00;

Priority Document No: 11/870042
Priority Date: 10/10/2007
Name of priority country: U.S.A.

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Abstract:
A flow management valve is operative to enable a multi-range electro-mechanical transmission in first and second ranges. Fluid pressure in a hydraulic circuit is monitored to detect a fault in the flow management valve.

Diagram:
- TPM
- ESD
- MG-A
- MG-B
- ECM
- TCM
- HYD

No. of Pages: 35
No. of Claims: 17
The invention relates to a program-controlled milling and drilling machine comprising a machine column (1), a machining unit (3) comprising a milling head (4) and being movable along at least one coordinate axis (X, Z) at the front of the machine column, a machine bed (5) disposed in front of the machine column, a work carrier (6) movable on the machine bed (5) along another coordinate axis (Y), and a pallet exchanger (10) arranged at the free end part of the machine bed (5), having two spaced apart pallet holders and a rotating and lifting mechanism (11, 12) on a joint load-bearing structure (12). According to the invention, the load-bearing structure (12) of the pallet exchanger (10) is laterally arranged next to the machine bed (5) and has a dimensionally stable and sturdy transverse arm (18) extending across the machine bed (5) and supporting the rotating mechanism (21), the lifting mechanism (11) in the load-bearing structure (12) laterally arranged next to the machine bed (5) being arranged in a manner protected against dirt by a splashboard (29).
A kit for use in implanting a stem into a long bone. The kit includes a universal handle including a locking mechanism, and a plurality of shafts. Each of the plurality of shafts is adapted to couple with the universal handle such that the locking mechanism of the universal handle locks each of the plurality of shafts to the handle.
A loom has a doffing-weaving control device (19) which measures a weaving amount during weaving, determines whether the measurement value reaches a set amount, and performs a predetermined operation for doffing when the measurement value reaches the set amount. The loom includes a weaving amount setting unit (22) which sets the set amount including first and second set amounts; and a manually operable command output unit (32) which outputs a change command of changing the determination to be based on the second set amount from the first set amount. The doffing-weaving control device (19) performs the determination based on the first set amount after weaving is started, performs the determination based on the second set amount when the change command is input before the measurement value reaches the first set amount, and automatically changes the determination to be based on the first set amount after the measurement value reaches the second set amount.
A torque-transfer assembly includes a fluid transfer tube located within a bore of a shaft. The fluid transfer tube seals to the shaft and includes at least one fluid groove that communicates between a plurality of fluid ports located in the shaft. The fluid groove is defined by an outer surface of the fluid transfer tube.
A hybrid powertrain having an engine, multi-speed transmission connected to a final drive and not continuously connected to the engine, a single motor/generator connected to an energy storage device and a controller and not continuously connected to the engine or transmission, and three clutches. The first clutch is connected to the engine, the second clutch is connected to the transmission and first clutch, and the third clutch is connected to the motor/generator and first and second clutches. The first and second clutches are operable for selectively interconnecting the engine and transmission; the first and third clutches are operable for selectively interconnecting the engine and motor/generator; the second and third clutches are operable for selectively interconnecting the transmission and motor/generator; and the three clutches are operable for selectively interconnecting the engine, transmission and motor/generator to transmit power therebetween. An engine starter system may be connected to the engine to transmit power to and receive power from the engine.
The invention relates to a closure for a container for holding a fluid, more particularly an adhesion promoter composition, provided, having a base element which can be fastened in the region of a pour opening of the container and which has an opening through which the fluid can be withdrawn from the container, having a first closure element which in a closed position thereof effects fluid-tight sealing of the opening of the base element and which in an open position thereof releases the opening of the base element, and having a second closure element, which can be fastened to the base element in such a way as to be repeatedly releasable and which, in a container storage mode, secures the first closure element in its storage position and, for a container dispensing mode, releases the first closure element to bring it from its closed position into the open position.
An electric motor 10 has a wound rotor 14 having a shaft 16, a rotor core 15, a commutator 19 and windings wound about the rotor core 15 and connected to the commutator 19. It has a stator 12 confronting the rotor 14; brush gear 20 electrically connecting the commutator 19 to motor terminals 23; first and second bearings 18, 28 for rotatably supporting the rotor 14, and an oil collector 35 fitted to the shaft 16 between the commutator 19 and the first bearing 18 for preventing oil migrating along the shaft 16 from the first bearing 18 reaching the commutator 19. The oil collector 35 is of high temperature material, preferably a metal such as brass, aluminum and steel. In a preferred embodiment, the oil collector 35 returns collected oil to the first bearing 18.
The central venous sensor assembly (1) comprises a catheter body (2) with several proximal ports (3a, 3b, 3c, 3d). The catheter portion placed in the vena cava superior (4) is equipped with a proximal flux measurement unit (6), and the catheter portion placed in the vena cava inferior (5) is equipped with a distal flux measurement unit (7). A first input channel (8) supplies a measurement signal indicative of a flux vp to the evaluation unit (10) from which the latter calculates a blood flow in the vena cava superior (4). Likewise, a second input channel (9) supplies a measurement signal indicative of a flux vp to the evaluation unit (10) from which the latter calculates a blood flow rate in the vena cava inferior (5). Due to continuity, the sum of the flow rates in the upper and lower central veins (4, 5) corresponds to the flow rate through the right heart (11) and in the pulmonary artery (12) and thus to cardiac output.

No. of Pages : 18 No. of Claims : 21
The invention relates to a process for the preparation of a plant extract from Curcuma plants, characterized by the process steps process step A) liquid extraction of Curcuma rhizomes, process step B) optionally, separation of a curcuminoid-containing solid obtained by precipitation from the extraction mixture obtained in process step A), process step C) removal of solvents present from the extraction mixture obtained in process step A) or B) to obtain a concentrate and process step D) distillation of the concentrate at a pressure of less than 1 bar to give the extract as distillate.
A method for improving fuel cell system reliability in the event of end cell heater failure in a fuel cell stack. The method includes detecting that an end cell heater has failed. If an end cell heater failure is detected, then the method performs one or more of setting a cooling fluid pump to a predetermined speed that drives a cooling fluid through cooling fluid flow channels in the fuel cell stack, limiting the output power of the fuel cell stack or the net power of one fuel cell system, limiting the maximum temperature of the cooling fluid flowing out of the stack, turning off stack anti-flooding algorithms that may be used to remove water from reactant gas flow channels in the stack, and turning off cathode stoichiometry adjustments for relative humidity control in response to water accumulating in cathode flow channels in the fuel cell stack.
A fuel cell system that enables an assisted anode purge upon start-up is provided. The fuel cell system includes a fuel cell stack having a plurality of fuel cells with anodes and cathodes. The fuel cell stack has an anode supply manifold and an anode exhaust manifold in fluid communication with the anodes. The fuel cell system further includes a suction device in fluid communication with at least one of the anode supply manifold and the anode exhaust manifold. The suction device adapted to selectively draw a partial vacuum on the fuel cell stack during a start-up of the fuel cell system. Methods for starting the fuel cell system are also provided.
A shaft assembly includes a fluid transfer insert located within a bore of a shaft. The fluid transfer insert seals to the shaft and includes at least one fluid channel that communicates between a plurality of fluid ports located in the shaft. The fluid channel is defined by an outer surface of the fluid transfer insert.
A transmission is provided having an input member, an output member, four planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches and brakes. Moreover, the torque transmitting devices are selectively engageable in combinations of at least four to establish at least ten forward speed ratios and at least one reverse speed ratio between the input member and the output member.
A control system for controlling a torque transmitting device in a transmission includes a controller, a plurality of solenoids, and a valve assembly. The valve assembly has a plurality of signal control areas in communication with the solenoids that are used to control the torque transmitting device to provide multiple gains of torque transmission.
The invention concerns a module of a nacelle (2, 12) of a wind turbine (1, 21), which is separately designed manageable and comprise a housing part (41, 51, 61, 71, 81). The module (4-8, 22 - 26b) is connectable to at least one further module (4 - 8, 22 - 26b) of the nacelle (2, 12), which is also separately designed, manageable and has a housing part (41, 51, 61, 71, 81), wherein the housing part (41, 51, 61, 71, 81) of the module (4- 8, 22 - 26b) builds in the assembled status of the nacelle (2, 12), which comprises several modules (4 - 8, 22 - 26b), a part of the housing of the nacelle (2, 12). The invention concerns also a nacelle (2, 12) comprising several such modules (4- 8, 22 - 26b), a wind turbine (1, 21) comprising such a nacelle (2, 12) as well as a method for the stepwise assembly of such a nacelle (2, 12) aloft.
An inner panel disposed rearward of a front wheel of a motorcycle has a muddy water receiving portion and openings formed therein, the muddy water receiving portion receiving an object splashed or thrown up by the front wheel in a position rearward of the front wheel, the openings facing rearward of a vehicle. The muddy water receiving portion is a portion locally depressed rearward of the vehicle in the inner panel.
A system for bleeding the anode side of first and second split fuel cell stacks in a fuel cell system that employs anode flow-shifting, where each split stack includes a bleed valve. The system determines that one or both of the bleed valves is stuck in an open position if there is flow through an orifice and a bleed has not been commanded. A shut-off valve is then used to provide the bleed if the cathode exhaust gas is able to dilute the hydrogen in the bled anode exhaust gas. An outlet valve between the first and second split stacks is used to bleed the anode exhaust gas if the cathode exhaust gas is not significant enough to dilute the hydrogen in the anode exhaust gas. If the first or second bleed valve is stuck in the closed position, then the outlet valve is used to provide the bleed.
A starting system is provided for delivering pressurized fuel to an engine to start the engine without a starter. The starting system includes an accumulator for storing pressurized fuel during engine operation and engine shut-down. During engine start-up, the accumulator delivers the stored pressurized fuel to the engine to start the engine. The accumulator is in fluid communication with a low pressure fuel reservoir and the engine. The accumulator includes an accumulator housing defining an accumulator cavity and including an accumulator piston and spring assembly, which is moveable longitudinally within the accumulator cavity. An electronic control module (ECM) is in electronic control with the starting system and the engine. The ECM is operable to activate the accumulator, forcing pressurized fuel stored within the accumulator into a high-pressure fuel line for injection into the engine, to generate at least one starting combustion event to start the engine without a starter.
Title of the invention: VARIABLE VALVE LIFT TRANSITION CONTROL METHODS AND SYSTEMS

Abstract:
A system for controlling a variable valve lift system of an engine comprises a delay module that estimates a total delay based on at least one of a measured and an estimated delay of the variable valve lift system. A variable valve control module commands one of a first transition from a variable valve low-lift profile to a variable valve high-lift profile and a second transition from a variable valve high-lift profile to a variable valve low-lift profile based on the total delay.
Apparatus, systems, and methods for reducing resonance in a multiple inverter system are provided. One apparatus includes an inverter coupled to a decoupling element, wherein the inverter and the decoupling elements are couplable to a power source. A system includes a motor vehicle power source including first positive and negative terminals, and a plurality of inverters coupled to the power source. Each inverter includes a second positive terminal coupled to the first positive terminal and a second negative terminal coupled to the first negative terminal. A first inverter of the plurality of inverters includes a decoupling element coupled between the first positive terminal and the positive terminal of the first inverter. One method includes operating first and second inverters at different frequencies, and controlling the impedance of a decoupling element coupled between a power source and the first inverter based on the second inverter frequency.
An intake air temperature (IAT) sensor diagnostic module comprises a measured noise module, an expected noise module, an excess noise module, and an IAT fault detection module. The measured noise module measures noise in an IAT signal from an IAT sensor in a vehicle. The expected noise module determines expected noise based upon the IAT signal. The excess noise module determines an excess noise value based upon the measured noise and the expected noise. The IAT fault detection module diagnoses faults in the IAT sensor based upon a comparison of the excess noise value and a first predetermined value.
The present invention provides a solenoid and electrical connector assembly which includes a solenoid body having a pair of electrical terminals disposed on opposite sides of a plunger component and a connector having two corresponding electrical terminals and a non-conductive blade or tongue disposed therebetween. When assembled, the tongue of the connector seats between the terminals on the solenoid body and inhibits corrosion and ingress of foreign matter in the region between the terminals of the solenoid.
### Title of the invention: LIQUID DISPENSING TIP WITH RESERVIOR

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<td>(54) Title of the invention</td>
<td>LIQUID DISPENSING TIP WITH RESERVIOR</td>
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<tr>
<td>(57) Abstract</td>
<td>The present invention includes devices for containing and dispensing liquid solutions. The devices of the invention increase ease of sample volume control and, hence, application thereof while minimizing any sample spillage or fluid migration up the side of the dispensing tip. Furthermore, the devices provide ensure adequate sample volume.</td>
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| (61) Patent of Addition to Application Number Filing Date | :NA                                          |
| (62) Divisional to Application Number Filing Date       | :NA                                          |
| (71) Name of Applicant 1 | LIFECAN SCOTLAND, LTD.  |
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| (72) Name of Inventor 1 | REMEDIOS DATO |
| 2 | Koon-Wah Leong |

No. of Pages : 25 No. of Claims : 6
The present invention includes syringes for dispensing liquids. The devices of the invention increase ease of volume control and hence application thereof while minimizing any spillage or fluid migration up the side of the syringe tip.
A transmission of the present invention has an input member, an output member, four planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches and brakes. The torque transmitting devices are selectively engageable in combinations of at least three to establish at least ten forward speed ratios and at least one reverse speed ratio.
The Patent Office Journal 05/06/2009

Title of the invention: TURBOCHARGED ENGINE CYLINDER HEAD INTERNAL COOLING

Abstract:
An engine cylinder head has an exhaust manifold cast in the cylinder head. A turbocharger with a turbine body is adapted to mount directly to an exhaust outlet mounting face of the exhaust manifold. A dual level water jacket within the cylinder head has separate coolant feeds for upper and lower cooling jackets. The cooling jackets extend above and below the exhaust outlet and are connected inward of the exhaust mounting face to reduce metal temperatures of the mounting face below those of the turbocharger exhaust inlet flange. Separate cores for the upper and lower jackets are connected at coolant inlet and outlet locations at opposite ends. Intermediate core print connectors form controlled flow passages between the upper and lower jackets and exhaust ports in the cylinder head and integrated manifold. The improved cooling in these areas lowers operating temperatures in the cylinder head and obviates the need for a separate exhaust manifold.

No. of Pages: 27 No. of Claims: 13
Title of the invention: DEVICE FOR COVERING A TUBULAR FILM OR A FILM COVER OVER A STACK OF GOODS

Abstract:
A device for covering a tubular film or a film cover over a stack of goods, wherein for gathering the tubular film at least two roller arrangements are provided with respectively at least one gathering roller and at least one counter-roller. The gathering rollers and the counter-rollers are arranged during gathering in a gathering position in which the tubular film is contact on the outer side with the gathering rollers and on the inner side with the counter-rollers. During gathering, only one counter-roller of each roller arrangement is in contact with the tubular film and is arranged here beneath a horizontal roller arrangement reference plane B. A covering device is provided, by which the tubular film is drawn over the stack of goods after gathering, wherein the roller arrangements are entrained in the covering direction. The covering device has at least two guide elements via which the tubular film is guided which is ungathered during covering. At least during the ungathering of the tubular film end, a counter-roller of each roller arrangement is in contact with the inner side of the tubular film and is arranged here in an ungathering position above the roller arrangement reference plane B.

No. of Pages: 23
No. of Claims: 14
A device for mounting a mould in a machine (1) that comprises: a mould (2) composed of two half-moulds (2a, 2b), each of which comprises an active filtering portion (2ar, 2br) made of porous resin and a passive rigid structural portion (5, 6), shaped like a plate and integral with the active portion (2ar, 2br), and which can be joined to each other to form an internal cavity where the article of sanitaryware is formed; a mounting unit or platen (3, 4) for each half-mould (2a, 2b), placed opposite each other and movable towards and away from each other along a clamping line (S); the service plate (5) at least of the first half-mould (2a) is rigidly connected, in use, between the active portion (2ar) and the respective platen (3); the device at least comprises reference and quick connect means (7, 8) located in a region above the centre of gravity of the first half-mould (2a), and acting at least between the platen (3) and the service plate (5) in order to fasten the first half-mould (2a) in a predetermined, hanging position correlated between the platen (3) and the plate (5).
The present invention relates to sanitary absorbent articles and in particular to a sanitary absorbent article assembly including an integrated disposal sheet for disposal of a soiled absorbent article.
The present invention relates to sanitary absorbent articles and in particular to a sanitary absorbent article assembly including an overwrap structure for packaging a clean sanitary article, the overwrap structure including a pocket for receiving a soiled sanitary article for disposal.
An inker for applying ink to a transfer roll of a printing machine has an inking chamber extending longitudinally along the transfer roll and having an outlet also extending longitudinally along the transfer roll and open against the transfer roll and a first generally cylindrical mixing chamber centered on an axis, spaced transversely from and extending longitudinally along the transfer roll. A rotatable shaft extending along the axis in the mixing chamber carries a partition subdividing the mixing chamber into two axially adjacent and axially spaced mixing compartments open radially into the inking chamber. At least two inlet conduits open onto each of the compartments, and a pump feeds respective inks to the inlet conduits therethrough into the mixing compartments.
An anti-skid exercise mat includes a foam member having a predetermined thickness, a fabric layer located on at least one side of the foam member, and at least one soft plastic material disposed on a predetermined area of a surface of the fabric layer. Accordingly, the anti-skid exercise mat has preferable anti-skid and perspiration-absorptive functions during the whole course of exercising.
(54) Title of the invention : ADMINISTERING MULTIPLE TARGET ACD SYSTEMS

(51) International classification :H04M3/22;
H04M3/22
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(57) Abstract :
Method and system for administering multiple target systems automatic contact distribution (ACD) systems, where corresponding object types in the various target systems may have different schema. A user of the administering system works in a single schema, and translators permit communication between the administering system and the various target systems.

No. of Pages : 19 No. of Claims : 19
A method for assessing financial risk associated with a business entity involves recording usage data associated with a consumer business software, where the usage data describes consumer behavior associated with the consumer business software, and where the consumer business software is associated with a business entity. The method further involves generating a financial risk assessment associated with the business entity based on the usage data, and determining an approval status based on the financial risk assessment, where the approval status indicates whether the business entity is approved to receive a financial service.
A commutator 10 for an electric motor comprises a plurality of commutator segments supported by a base. The segments have an electrically conductive body portion 14 and at least one electrically conductive foldable tang 16 provided on the body portion 14 for engaging a winding lead wire 44 of an electric motor. The foldable tang 16 has a proximal end 18 on or adjacent to the body portion 14, and a distal end 22 remote from the proximal end 18. A wire-accommodating portion 30 is provided on or adjacent to the foldable tang 16, so that, when the tang 16 is folded, the wire-accommodating portion provides a predetermined gap 56 for the winding lead wire 44.
A powertrain comprising an electro-mechanical transmission mechanically-operatively coupled to an internal combustion engine and an electric machine adapted to selectively transmit mechanical power to an output member is disclosed.
(54) Title of the invention : METHOD AND SYSTEM FOR MONITORING SIGNAL INTEGRITY IN A DISTRIBUTED CONTROLS SYSTEM

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(72) Name of Inventor :
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2) WILLIAM R. CAWTHORNE
3) LEONARD G. WOZNIAK

(57) Abstract :
A method to monitor integrity of a signal in a distributed control system for a powertrain system includes communications link transmitting signals between control modules. Integrity of each of the control modules is monitored. The signal is generated and verified in an originating control module and transmitted to a receiving control module whereat it is subsequently verified.
A bus bar and a related electrical assembly for an electric traction system of a vehicle are provided. The bus bar includes an electrically conductive body configured for coupling to an electrical device high current node, the electrically conductive body comprising a circuit board mounting end, and a plurality of electrically conductive fingers extending from the circuit board mounting end. The fingers are configured to accommodate soldering to at least one conductive trace of a circuit board.
Methods and systems for controlling a power inverter in an electric drive system of an automobile are provided. The various embodiments control the power inverter by, responsive to either a commanded torque of the electric motor being above a first torque level, or a commanded speed of the electric motor being above a first speed level, controlling the power inverter with a discontinuous pulse width modulated (DPWM) signal to generate a modulated voltage waveform for driving the electric motor. Additionally, the embodiments control the power inverter by, responsive to both a commanded torque of the electric motor being below the first torque level, and a commanded speed of the electric motor being below the first speed level, controlling the power inverter with a continuous pulse width modulated (CPWM) signal to generate the modulated voltage waveform for driving the electric motor.
An electrically-variable transmission is provided with first and second motor/generators and three planetary gear assemblies. At least one of the planetary gear assemblies is a planetary gear assembly having multiple planetary gear sets. As a result, the gears for the planetary gear assembly can be represented on multiple radial planes. Each of the planetary gear assemblies has continuous interconnections, and selective connections via a plurality of torque-transmitting mechanisms, that provide three forward electrically-variable modes. Preferably, the planetary gear assemblies are connected to one another in such a manner as to allow shifting between one of the electrically-variable modes to occur at a point offset from a mechanical power flow of the transmission. This decreases the maximum power output required from the motor/generators.
Some embodiments of the present invention provide a system for managing software agents. This system enables a user to configure agents and to specify wiring relationships between the agents and other system components. This system also includes a hub component, which is configured to route communications to and from the agents in accordance with user-specified wiring relationships.
## Title of the invention: SERIES SURGE SUPPRESSION STRUCTURE

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### Abstract:
A series surge suppression structure mainly comprises: a circuit board, a ground line and a plurality of galvanization circuits being disposed thereon, a multilayer surge absorption unit being disposed in series on the ground line and the plurality of galvanization circuits; wherein each surge absorption unit is constituted by a pair of chokes with a layered surge absorption element connected in parallel between one end of either choke and the ground line; a power connection terminal, positioned on one side of the circuit board and electrically connected to a final end of the multilayer surge absorption unit; and a protection terminal, positioned on another side of the circuit board and electrically connected to a final end at another side of the multilayer surge absorption unit; whereby, the protection terminal can be used to connect with a communication circuit or an electric facility and the power connection terminal is used for connecting with an external wire so as to form a multilayer surge absorption protection by means of series connection. Meanwhile, a derivative module may be conveniently manufactured to allow multiple modules to be connected together and expand to use as a three-phase multilayer surge absorption protection thereby expanding a use range to attain to the surge substantially suppressing effect.

No. of Pages: 22 No. of Claims: 12
A vehicle includes an engine, a controller for turning off the engine when the vehicle is idle, a motor/generator for starting the engine, an inverter for converting a DC auxiliary voltage from a battery into an AC voltage for powering the motor/generator, and a device for isolating a DC voltage from the DC auxiliary voltage to prevent voltage sag in a vehicle system during engine starting. The device includes a transformer, a rectifier/regulator, and an isolator. A mechanical relay opens, or an FET is activated, to isolate the DC voltage during engine start. A method for preventing voltage sag in an auxiliary vehicle system includes detecting a commanded engine start, comparing a measured auxiliary voltage to a threshold, isolating a predetermined DC voltage from a DC auxiliary voltage when the measured auxiliary voltage is less than the threshold, and powering the auxiliary vehicle system using the isolated DC voltage.
Controlling a hybrid powertrain includes monitoring an operator torque request, determining maximum and minimum allowable transmission output torques based upon the operator torque request, determining a commanded transmission output torque, and comparing the commanded transmission output torque and each of the maximum and minimum allowable transmission output torques.
A tinted color value is produced for a surface of an object in a computer generated scene. The surface is illuminated by a light source having a lighting color value associated with the light source. A first reflected color value is calculated for the surface. The first reflected color value is calculated based on an assumption that the surface is illuminated by white light rather than the lighting color value associated with the light source. A desaturated color value is computed using the first reflected color value. A tinted color value is computed by combining the desaturated color value with the lighting color value associated with the light source. The tinted color value is stored.

No. of Pages: 26  No. of Claims: 15
Devices, methods, and techniques for keyboard scanning are disclosed herein. Keyboard arrangements can include a plurality of keys and a keyboard decoder. Each of the plurality of keys can include at least one drive contact and a plurality of sense contacts. Each drive contact can be connected to an output (drive) line of the keyboard decoder, and each sense contact can be connected to an input (sense) line of the keyboard decoder such that each key is connected to a unique combination of sense lines. Key presses can be identified by the unique combination of sense lines triggered. The combination of sense lines triggered can be used as an address to a lookup table indicating the function of the various keys. Variations of drive signal properties, e.g., frequency, phase, and waveshape, can be used to further distinguish key inputs and/or provide for a greater number of keys and/or corresponding functions.
The invention relates to a pressure transducer for a pressure sensor (2) for determining at least one pressure (pa, pb) in a process media (3a, 3b) having a housing (4) with a separating diaphragm (5a, 5b), at least one first pressure-sensing element (6a, 6b), a contact media (7a, 7b), at least one first connection element (8a, 8b) and with at least one first seal (9a, 9b), wherein the separating diaphragm (5a, 5b) separates the process media (3a, 3b) from the contact media (7a, 7b), the contact media (7a, 7b) conveys the pressure (pa, pb) of the process media (3a, 3b) determined by the separating diaphragm (5a, 5b) to the first pressure-sensing element (6a, 6b), and wherein the first seal (9a, 9b) houses the first connection element (8a, 8b) and wherein the housing (4), the separating diaphragm (5a, 5b) and the first seal (9a, 9b) form a first pressure chamber (10a, 10b). It is the object of the invention to avoid - at least partially - the described disadvantages in the pressure transducers known from the prior art, in particular to allow detection of a flaw in the area of the first seal. The object is met in that a second pressure chamber (14) is provided on the side of the first pressure chamber (10a, 10b) opposite the first seal (9a, 9b) and a second pressure-sensing element (15) is arranged in the second pressure chamber (14).
Title of the invention: METHOD FOR PRODUCING RESIN-COATED SLIDING MEMBER AND APPARATUS FOR PRODUCING THE SAME

Abstract:
An object of the present invention is to provide a method for producing a resin-coated sliding member wherein the method ensures the productivity and at the same time enables the recycling of the solvent so as to be friendly to the environment. According to the present invention, included are a coating step in which a porous sintered layer prepared by sintering on a back metal is impregnated with a solvent-containing resin composition, a heating step to heat the solvent and the resin composition and a collecting step to collect the vaporized solvent wherein the vaporized solvent is sucked, liquefied and collected; and hence even when a solvent having a high boiling point and a low vapor pressure is used, the solvent can be collected efficiently by applying a low energy, and the collected solvent is recycled so as to be friendly to the environment and to enable the reduction of the consumed raw materials.
Title of the invention: METHOD OF TORQUE INTEGRAL CONTROL LEARNING AND INITIALIZATION

Abstract:
A torque control system comprises a torque correction factor module, a RPM-torque transition module, and a selection module. The torque correction factor module determines a first torque correction factor and a second torque correction factor. The RPM-torque transition module stores the first torque correction factor. The selection module selectively outputs one of the first torque correction factor and the second torque correction factor based on a control mode of the torque control system.

No. of Pages: 39 No. of Claims: 21
An engine control module comprises a base reserve module, a power steering reserve module, a reserve torque module, first and second engine actuator modules, and an engine speed control module. The base reserve module determines a base reserve torque. The power steering reserve module determines a power steering reserve torque. The reserve torque module determines a first reserve torque based on the base reserve torque, the power steering reserve torque, and at least one of an oil temperature of an engine and a barometric pressure. The first and second engine actuator modules control first and second actuators of the engine, respectively. The engine speed control module instructs the first engine actuator module to produce a first torque output from the engine and instructs the second engine actuator module to produce a second torque output from the engine.

No. of Pages : 44 No. of Claims : 19
An engine control module comprises a torque control module, an engine speed (RPM) control module, and an actuator module. The torque control module determines a first desired torque based on a requested torque. The RPM control module selectively determines a second desired torque based on a desired RPM. The torque control module determines the first desired torque further based on the second desired torque when the engine control module is transitioning from an RPM control mode to a torque control mode. The RPM control module determines the second desired torque further based on the first desired torque when the engine control module is transitioning from the torque control mode to the RPM control mode. The actuator module controls an actuator of an engine based on the first and second desired torques.
Title of the invention: CREATION AND DEPLETION OF SHORT TERM POWER CAPABILITY IN A HYBRID ELECTRIC VEHICLE

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Abstract:
Short term power limits of an electrical energy storage device are progressively tightened toward long term power limits in accordance with net energy flow or magnitude or duration metrics.

No. of Pages: 42 No. of Claims: 17
Title of the invention: METHOD OF OPERATING A VEHICLE UTILIZING REGENERATIVE BRAKING

Abstract:
A vehicle includes a powertrain system and a friction braking system, the powertrain system including a hybrid transmission operative in one of a fixed gear operating range state and a continuously variable operating range state to transmit torque between an input member and a torque machine and an output member coupled to a driveline. A method for operating the vehicle includes monitoring operator inputs to an accelerator pedal and a brake pedal, monitoring vehicle speed, maintaining the transmission in a present operating range state subsequent to the operator disengaging the accelerator pedal absent the operator engaging the brake pedal, transitioning the transmission device to a continuously variable operating range state subsequent to the operator disengaging the accelerator pedal and the operator engaging the brake pedal, executing regenerative braking by controlling the torque machine to react torque through the transmission to brake the vehicle through the driveline when the operator engages the brake pedal and the speed of the vehicle is greater than a first threshold, and disabling the regenerative braking when the operator disengages the brake pedal and subsequently reengages the brake pedal when the speed of vehicle is less than a first threshold and greater less than a second threshold.
A method to determine a limit torque associated with an electromechanical transmission includes determining electric motor torque constraints and battery power constraints. A limit torque function and a standard form of the limit torque function are determined. The limit torque function and the motor torque constraints and the battery power constraints are transposed to the standard form to determine a limit torque.
A system comprises a post oxygen performance diagnostic (POPD) module that performs a POPD of a post oxygen sensor, wherein the POPD includes a deceleration fuel cutoff (DFCO) portion. A torque converter control module adjusts operation of a torque converter clutch (TCC). The POPD module and the torque converter control module operate the TCC to control engine speed above a predetermined engine speed during the DFCO portion of the POPD. A method comprises performing a POPD of a post oxygen sensor, wherein the POPD includes a deceleration fuel cutoff (DFCO) portion and adjusting operation of a torque converter clutch (TCC) to control engine speed above a predetermined engine speed during the DFCO portion of the POPD.
(54) Title of the invention : METHOD FOR DETERMINING AN ACHIEVABLE TORQUE OPERATING REGION FOR A TRANSMISSION

(57) Abstract :  
A method for controlling a transmission operative to transfer power between an input member and torque machines and an output member includes determining available power, motor torque constraints, and other constraints on torque transfer. Equations are provided, transformed to a second coordinate system and simultaneously solved. An achievable torque operating region is determined.

No. of Pages : 48  No. of Claims : 17
The present invention generally relates to absorbent sanitary napkins and in particular to a sanitary napkin including an absorbent layer having a plurality of spaced beam elements for promoting enhanced fluid wicking within the sanitary napkin.
The present invention generally relates to absorbent sanitary napkins and in particular to a sanitary napkin including an absorbent layer having a plurality of spaced beam elements for promoting enhanced fluid wicking within the sanitary napkin.
Title of the invention: HINGE FOR A GLASS DOOR

Abstract:
The present invention is to provide a hinge suitable for a glass door, having a roller actuating by a spring member and cooperating with a cylindrical surface and slots on the cylindrical surface to hold the glass door in the opened and closed positions, and to make the fluent opening and closing movement of the glass door.
A method for controlling an electro-mechanical transmission mechanically coupled to first and second electric machines to transmit power to an output member includes determining motor torque constraints and battery power constraints. A preferred output torque to an output member is determined that is achievable within the motor torque constraints, within a range for an additional torque input and based upon the battery power constraints.
A powertrain including an electro-mechanical transmission mechanically-operatively coupled to an internal combustion engine and first and second electric machines to transmit power to an output member is disclosed. A method for controlling the electro-mechanical transmission includes determining minimum and maximum motor torque constraints for the first and second electric machines, and determining available battery power in terms of battery power constraints. One of a first, a second and a third case is determined based upon the motor torque constraints and the battery power constraints. A preferred output torque is determined for transmitting to the output member of the electro-mechanical transmission.

No. of Pages : 75 No. of Claims : 29
METHOD FOR DEPLOYING A DEVICE FOR GASTRIC VOLUME REDUCTION

A method for approximating tissue within a body including the step of providing a device having a handle, at least one actuator, an elongated hollow housing having a proximal end attached to the handle and a distal end extending therefrom, a first and second cartridge. Each the cartridge contains at least one fastener having at least two anchors connected together by a non-resilient flexible suture which does not resist deformation under compressible loads. The first cartridge being releasably connected to the distal end of hollow housing. The method also involves the step of inserting the first cartridge into a body and deploying each anchor into tissue in a spaced apart position. The method also involves moving the anchors adjacent one another by moving the suture in a proximal direction, and removing the first cartridge from the body and from the housing. The method then involves placing the second cartridge onto the housing thereby replacing the first cartridge with the second cartridge.
A reloadable device for deploying fasteners including a handle and at least one actuator. The handle is connected to an elongated hollow housing having distal and proximal ends. The device also includes a first cartridge containing at least one fastener releasably connectable to the distal end of hollow housing. The fastener has at least two anchors connected together by a non-resilient flexible suture which does not resist deformation under compressible loads. The device also includes a means for facilitating removal the first cartridge and replacing it with a second cartridge.
A cartridge containing a fastener, wherein the cartridge releasably connected to a fastener deploying device. The cartridge has a housing which houses at least one tissue penetrating member. The penetrating member at least partially houses a fastener. The fastener has at least two rigid anchors connected together by a flaccid member. The cartridge further includes a means for removably attaching the cartridge to a deployment device.
**Title of the invention**: BODY-ATTACHABLE SANITARY NAPKIN

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<th>(51) International classification</th>
<th>(71) Name of Applicant: 1) MCNEIL-PPC, INC</th>
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<td>A61F13/15; A61F13/46</td>
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<td>U.S.A.</td>
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| (86) International Application No Filing Date | (87) International Publication No |
| :NA | :NA |

| (61) Patent of Addition to Application Number Filing Date | (62) Divisional to Application Number Filing Date |
| :NA | :NA |

| (57) Abstract: |
| A body-attachable sanitary napkin including a fluid-pervious cover layer, a fluid-retaining assembly; and a barrier layer having a body-contactable adhesive disposed on at least first portions thereof. The sanitary napkin according to the invention remains securely attached to the body during use, moves with the body during use, yet at the same time enables the user to selectively remove the napkin in a pain free manner. |

No. of Pages: 45 No. of Claims: 10
Embodiments of the invention relate to a packaged epilation product comprising an epilation composition formed on a substrate and an air-activated heat-generating module.

No. of Pages : 31 No. of Claims : 20
A body-attachable sanitary napkin including a fluid-pervious cover layer, a fluid-retaining assembly; and a barrier layer having a body-contactable adhesive disposed on at least first portions thereof. The sanitary napkin according to the invention remains securely attached to the body during use, moves with the body during use, yet at the same time enables the user to selectively remove the napkin in a pain free manner.
Operation of an electro-mechanical transmission includes determining motor torque constraints and battery power constraints. An additional constraint on the electro-mechanical transmission is determined. A preferred output torque is determined that is achievable within the motor torque constraints and based upon the additional constraint and the battery power constraints.
A method for controlling a powertrain includes monitoring a desired synchronous transmission shift during deceleration of an output member including a desired operating range state, monitoring an output speed, predicting output deceleration through the desired synchronous transmission shift, determining a penalty cost associated with the desired synchronous transmission shift based upon an input speed profile resulting from the predicted output deceleration and from the desired synchronous transmission shift, and executing the synchronous transmission shift based upon the penalty cost.
A powertrain system includes a transmission operative to transfer power between a plurality of power actuators and an output member, and an energy storage device. A method for controlling the powertrain system includes establishing a first set of electric power limits and a second set of electric power limits for the energy storage device, determining a preferred input power from a first power actuator based upon the first set of electric power limits, determining a first set of power constraints for constraining input power from the first power actuator and a second set of power constraints for constraining output power from the output member based upon a second set of electric power limits, and controlling operation of the powertrain system based upon the preferred input power, the first set of power constraints, and the second set of power constraints.
(54) Title of the invention: METHOD FOR CONTROLLING INPUT TORQUE PROVIDED TO A TRANSMISSION

(51) International classification : B60T7/12; B60K41/04;
G05D1/00

(31) Priority Document No : 60/984,928
(32) Priority Date : 02/11/2007
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(61) Patent of Addition to Application Number : NA
Filing Date : NA

(62) Divisional to Application Number : NA
Filing Date : NA

(57) Abstract:
A method for controlling an input torque provided to a transmission includes executing a first iterative search within a first range of permissible torque values to determine a first torque value based on a first cost value. The first cost value is based on a first set of powertrain measurements measured at a first time. A second cost value based on a second torque value and the first set of powertrain measurements measured at the first time is calculated. The second torque value is determined using a second set of powertrain measurements measured at a second time prior to the first time. One of the first torque value and the second torque value is then selected based on the first cost value and the second cost value.

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No. of Pages: 34
No. of Claims: 20
A powertrain system includes a multi-cylinder engine coupled to a hybrid transmission. The engine is selectively operative in one of a plurality of main engine states to transfer engine torque to the hybrid transmission. A method for operating a powertrain system includes monitoring an operator torque request, determining a preferred main engine state and a preferred engine torque associated with the preferred engine state, determining an engine state transition path from a present main engine state to the preferred main engine state including an engine transition state, and executing the engine state transition path between the present main engine state and the preferred main engine state and adjusting engine torque to the preferred engine torque.
**Title of the invention:** CONTROL SYSTEM FOR ENGINE TORQUE MANAGEMENT FOR A HYBRID POWER TRAIN SYSTEM

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**Abstract:**
An engine is mechanically coupled to a transmission device, the transmission device operative to transfer mechanical power between the engine and a second power generating device and an output member. A method for controlling the engine includes monitoring an operator demand for power, selecting a preferred engine state, determining a preferred engine torque input to the transmission device when operating in the preferred engine state based upon the operator demand for power, determining constraints on the engine torque input to the transmission device based upon a capacity of the transmission device to react the engine torque input, and commanding operation of the engine to the preferred engine state and commanding the engine torque input to the transmission device based upon the preferred engine torque input and the constraints on the engine torque input.

No. of Pages: 46 No. of Claims: 18
A powertrain system includes an engine coupled to a transmission operative in one of a plurality of operating range states to transfer power between the engine and an output member. A method for controlling the powertrain system includes monitoring an operator torque request, monitoring barometric pressure and engine input speed to the transmission, determining an achievable range of input power transferable from the engine to the transmission based upon the barometric pressure and the engine input speed, and determining a preferred operating range state for the transmission and a preferred engine operating point at the preferred operating range state based upon the operator torque request and the achievable range of input power.

No. of Pages : 67 No. of Claims : 17
A method for controlling a powertrain system includes determining a current transmission operating range state and engine state, determining at least one potential transmission operating range state and engine state, providing at least one operator torque request, determining preferability factors associated with the current transmission operating range state and engine state, and potential transmission operating range states and engine states, wherein determining preferability factors associated with potential transmission operating range states includes assigning biasing costs to operator torque requests which reside within a pre-determined range of possible operator torque requests for at least two of the potential transmission operating range states, preferentially weighting the preferability factors for the current transmission operating range state and engine state, and selectively commanding changing the transmission operating range state and engine state based upon the preferability factors and the operator torque request.
A hybrid transmission is operative to transfer power between an input member and a torque machine and an output member. A method for controlling the powertrain system during a braking event includes evaluating candidate input torques. An output torque reactable through the transmission to the driveline and limited within the range of permissible output torques is determined for the candidate engine input torque. A preferred input torque is determined.
A powertrain system includes an engine mechanically coupled to an electro-mechanical transmission selectively operative in one of a plurality of transmission operating range states and one of a plurality of engine states. A method for controlling the powertrain system includes determining a current transmission operating range state and engine state, determining at least one potential transmission operating range state and engine state, determining preferability factors associated with the current and potential transmission operating range state and the engine state wherein the preferability factors associated with potential transmission operating range states include load-stabilizing preferability factors, preferentially weighting the preferability factors for the current transmission operating range state and engine state, and selectively commanding changing the present transmission operating range state and engine state based upon the preferability factors.
A method for controlling a hybrid powertrain system based upon determined inertial effects for a continuously variable operating range state includes monitoring an operator torque request and a rotational speed of the output member, determining an inertial effect on an input speed of the input member for a continuously variable operating range state, and controlling motor torque outputs from the electric machines to meet the operator torque request based upon the inertial effect on the input speed of the input member.
A powertrain system includes an engine mechanically coupled to an electro-mechanical transmission selectively operative in one of a plurality of transmission operating range states and one of a plurality of engine states. A method for controlling the powertrain system includes determining a current transmission operating range state and engine state, determining at least one potential transmission operating range state and engine state, determining preferability factors associated with the current and potential transmission operating range state and engine state wherein the preferability factors associated with potential transmission operating range states include transmission input speed trip preferability factors, preferentially weighting the preferability factors for the current transmission operating range state and engine state, and selectively commanding changing the present transmission operating range state and engine state based upon the preferability factors.
A method for controlling a powertrain system includes monitoring output power of the energy storage device, modifying a preferred electric power limit when the output power of the energy storage device transgresses a trigger power limit, and determining the power constraint of the first power actuator based on the estimated output power of the energy storage device when the output power of the energy storage power transgresses the preferred power limit.
A powertrain system is operative to transfer power between an input member and a plurality of power actuators and an output member to generate an output torque. The power actuators are connected to an energy storage device. A method for controlling the powertrain system includes monitoring operating conditions of the powertrain system, determining an electric power limit for output power of the energy storage device, selectively enabling electric power boost based upon the operating conditions of the powertrain system, and increasing the electric power limit when electric power boost is enabled.
An engine is coupled to an input member of a hybrid transmission, the hybrid transmission operative to transfer power between the engine and a second torque machine and an output member. A method for controlling the engine includes monitoring an operator torque request, commanding operation of the hybrid transmission in a continuously variable operating range state, determining engine commands comprising a first engine torque request and a second engine torque request based upon the operator torque request and the operation of the hybrid transmission, determining an engine torque constraint comprising a maximum engine torque based upon a capacity of the hybrid transmission to react the engine torque, and controlling engine operation based upon the first engine torque request only when the second engine torque request exceeds the engine torque constraint.
A method to control a powertrain including a transmission, an engine, and an electric machine includes monitoring a rotational speed of the engine, monitoring a temperature of a transmission fluid, determining a maximum hydraulic pressure within a hydraulic control system based upon the rotational speed of the engine and the temperature of the transmission fluid, determining a predicted clutch torque capacity based upon the maximum hydraulic pressure, generating a preferred input torque from the engine based upon the predicted clutch torque capacity, and utilizing the preferred input torque to control the engine.
A powertrain system includes a transmission operative to transfer power between an engine coupled to an input member and a plurality of torque machines and an output member. A method for controlling the powertrain system includes monitoring system operation and determining an output torque request, determining a closed loop speed error, determining motor torque offsets to the torque machines based upon the closed loop speed error, determining output torque constraints based upon the motor torque offsets and the system operation, determining an output torque command based upon the output torque request and the output torque constraints, determining preferred motor torque commands for the torque machines based upon the output torque command, reducing the preferred motor torque commands for the torque machines using the motor torque offsets to the torque machines, and adjusting the reduced preferred motor torque commands for the torque machines based upon the closed loop speed error.
A powertrain system includes an engine mechanically coupled to an electro-mechanical transmission selectively operative in one of a plurality of transmission operating range states and one of a plurality of engine states. A method for controlling the powertrain system includes determining a current transmission operating range state and a current engine state, determining at least one potential transmission operating range state and engine state, determining preferability factors associated with the current and potential transmission operating range state and the engine state, preferentially weighting the preferability factors for the current transmission operating range state and engine state, and selectively commanding changing the present transmission operating range state and engine state based upon the preferability factors.
A vehicle includes a friction braking system and a powertrain system including a torque machine operative to react tractive torque input from a wheel of the vehicle. A method for controlling braking in a vehicle includes monitoring operation of the powertrain system, determining a driver intended total brake torque, determining a regenerative braking capacity based upon the operation of the powertrain system, determining a regenerative braking request based upon a time-rate change in the regenerative braking capacity, and determining a motor torque command for the torque machine based upon the regenerative braking request.
A vehicle includes a powertrain system and a friction braking system communicating tractive torque with a driveline, the powertrain system including a torque machine, and an energy storage device connected to the torque machine, said torque machine communicating tractive torque with the driveline. A method for controlling regenerative braking and friction braking includes monitoring a vehicle operating point, determining a braking torque request, determining a regenerative braking motor torque ratio based upon the vehicle operating point wherein the regenerative braking motor torque ratio is non-linearly dependent on the vehicle operating point, and actuating the friction brake based upon the regenerative braking motor torque ratio and the braking torque request.
Title of the invention: METHOD FOR CONTROLLING OUTPUT POWER OF AN ENERGY STORAGE DEVICE IN A POWERTRAIN SYSTEM

Abstract:
A method for controlling a powertrain system includes monitoring a state-of-charge of the energy storage device and determining a first set of electric power limits and a second set of electric power limits based on the state-of-charge of the energy storage device. The method further includes providing a power range for opportunity charging and discharging of the energy storage device based on the first set of electric power limits. The method further includes providing a power range for controlling output power of the energy storage device based on the second set of electric power limits.
A microprocessor driven two dimensional search engine examines transmission operating points within a plurality of search range spaces and assists in determining properties associated with the driveline at various operating points within the space. The size of the space is reduced by rearrangement of data.
A powertrain system includes a hybrid transmission coupled to an engine and an auxiliary hydraulic pump. The auxiliary hydraulic pump is commanded to operate at a predetermined speed only when enable criteria are met. An engine-off state is inhibited based upon a difference between a commanded speed and a monitored operating speed of the auxiliary hydraulic pump.
A powertrain includes an electro-mechanical transmission operative to transmit torque between an input member and an electric machine and an output member to transmit tractive torque. The electric machine is electrically connected to an inverter device which is electrically connected to an energy storage device. A method for operating the powertrain includes detecting a shutdown event, commanding the transmission to neutral, commanding the electric machine to cease operating in a torque generating mode, and electrically disconnecting the energy storage device from the inverter device.
A method for improving drivability of the powertrain system having an accelerator control includes determining a first transmission input speed having an associated first power loss and operating said transmission using said first transmission input speed. An operational parameter relating to said accelerator control is determined and a second transmission input speed responsive to said operational parameter and having an associated second power loss is determined. The value of at least one of said first and second power loss is biased based on said operational parameter. The first power loss is compared to said second power loss subsequent to the biasing. A third transmission input speed is determined and the transmission is operated using the third transmission input speed.
A method for operating a vehicle includes determining a transmission input speed, operating the transmission using the transmission input speed, and providing a braking torque request to cause braking of the vehicle according to a scheme selected from the group consisting of a first braking mode and a second braking mode. The transmission input speed and the transmission operating range state are dependent on said braking torque request in the first braking mode, and wherein the transmission operating state, but not the transmission input speed, is dependent on the braking torque request in the second braking mode.
Title of the Invention: METHOD AND APPARATUS TO DETERMINE A PREFERRED OUTPUT TORQUE FOR OPERATING A HYBRID TRANSMISSION IN A CONTINUOUSLY VARIABLE MODE

Abstract:
A hybrid transmission includes a torque machine and an energy storage device connected thereto. The hybrid transmission is operative to transfer power between an input member and an output member and the torque machine in a continuously variable operating range state. A method for controlling the hybrid transmission includes determining a preferred output torque, determining a relationship between power from the energy storage device and an output torque of the transmission, determining power constraints from the energy storage device, determining motor torque constraints for the torque machine, determining linear torque constraints to the output torque based upon the motor torque constraints for the torque machine, determining quadratic output torque constraints based upon the power constraints from the energy storage device and the relationship between the power from the energy storage device and the output torque of the transmission device, and determining an output torque to the output member responsive to the preferred output torque and achievable based upon the linear output torque constraints and the quadratic output torque constraints.
Title of the invention: METHOD FOR OPERATING AN INTERNAL COMBUSTION ENGINE FOR HYBRID POWERTRAIN SYSTEM

A hybrid powertrain system includes an internal combustion engine operatively connected to a second torque machine to transmit torque to an output member. A method for operating the hybrid powertrain system includes monitoring an operator torque request, determining an output torque command based upon the operator torque request, commanding a transition between an engine-off state and an engine-on state, monitoring an engine crank angle, spinning the engine unfueled, estimating cylinder pressure based upon the engine crank angle during the spinning of the engine, predicting a cylinder pulse torque based upon the cylinder pressure, determining a cancellation torque for the second torque machine based upon the predicted cylinder pulse torque, and controlling motor torque output from the second torque machine based upon the cancellation torque and the output torque command.

No. of Pages: 48
No. of Claims: 21
A microprocessor driven two dimensional search engine examines transmission operating points within a plurality of search range spaces and assists in determining properties associated with the driveline at various operating points within the space. The size of the space is reduced by rearrangement of data.
A method to monitor integrity of a motor torque command for a transmission in a hybrid powertrain system includes calculating motor torque commands for the torque generating machines. Torque corrections for the motor torque commands are determined. The motor torque commands are adjusted based upon the torque corrections. The adjusted motor torque commands are verified based upon an estimated output torque.
A method of charging a powertrain includes detecting an external power source in electrical communication with the powertrain, establishing a virtual network between charging control module, and transferring charge from the external power source to the powertrain.
A method of externally charging a powertrain includes monitoring a voltage level of a first battery, determining when the monitored voltage level is below a first voltage threshold, and when the monitored voltage level is below the first voltage threshold, charging the first battery by supplying power from an external power source and increasing voltage of the power supplied by the external power source within the powertrain.
(54) Title of the invention: METHOD FOR PREDICTING AN OPERATOR TORQUE REQUEST OF A HYBRID POWERTRAIN SYSTEM

(51) International classification: B60W10/06; B60W10/10; B60W30/18
(31) Priority Document No: 60/985,422
(32) Priority Date: 05/11/2007
(33) Name of priority country: U.S.A.
(86) International Application No: NA
(38) International Application Date: NA
(87) International Publication No: NA
(61) Patent of Addition to Application Number: NA
(62) Divisional to Application Number: NA
(71) Name of Applicant:
GM GLOBAL TECHNOLOGY OPERATIONS, INC.
Address of Applicant: 300 GM RENAISSANCE CENTER DETROIT, MICHIGAN U.S.A.
(72) Name of Inventor:
1) ANTHONY H. HEAP
2) KEE YONG KIM

(57) Abstract:
A method for controlling a hybrid powertrain system based upon a predicted speed of an output member, a predicted operator torque request, and a predicted accelerator pedal position is disclosed. The method comprises predicting the accelerator pedal position based upon a monitored accelerator pedal position and a filtered accelerator pedal position, predicting the speed of an output member based upon a monitored speed of the output member, and predicting the operator torque request based upon the predicted speed of the output member and the predicted accelerator position.

No. of Pages: 38 No. of Claims: 20

The Patent Office Journal 05/06/2009 26403
A hybrid transmission includes torque machines and an energy storage device connected thereto. The hybrid transmission is operative to transfer power between an input member and an output member and the torque machines. A method for controlling the hybrid transmission includes monitoring operating parameters of the hybrid transmission, monitoring an operator demand for power, determining an output torque range to the output member based upon states of the operating parameters of the hybrid transmission, constraining the output torque range to the output member based upon the operator demand for power, and determining input torque constraints to the input member based upon the constrained output torque range to the output member.
A powertrain system includes a transmission operative to transfer power between an input member and first and second torque machines and an output member. The first and second torque machines are connected to an energy storage device and the transmission is operative in a continuously variable operating range state. A method for controlling the powertrain system includes selecting an independently controllable parameter for the powertrain system, determining maximum and minimum motor torque constraints for the first and second torque machines and determining maximum and minimum power constraints for the energy storage device, determining maximum and minimum states for the independently controllable parameter for the powertrain system, and determining an achievable operating range for a parameter of interest based upon the maximum and minimum states for the independently controllable parameter for the powertrain system, the maximum and minimum motor torque constraints for the first and second torque machines and the maximum and minimum power constraints for the energy storage device.
(54) Title of the invention : METHOD AND APPARATUS TO MONITOR POSITION OF A ROTATABLE SHAFT

(51) International classification : G01B7/30
(31) Priority Document No : 60/985,737
(32) Priority Date : 06/11/2007
(33) Name of priority country : U.S.A.
(36) International Application No : NA
Filing Date : NA
(86) International Application No : NA
Filing Date : NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number : NA
Filing Date : NA
(62) Divisional to Application Number : NA
Filing Date : NA

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1) STEPHEN T. WEST
2) SEAN E. GLEASON

(57) Abstract :
A rotatable shaft is equipped with a measurement device that generates output signals corresponding to discrete angular positions of the shaft. Rotational angles of the shaft are measured for a complete rotational period. A true angular velocity of the shaft is determined. Angular velocity is calculated between contiguous pairs of the discrete angular positions. A velocity correction is determined, and a rotational angle error term is determined based upon the velocity correction.

No. of Pages : 20
No. of Claims : 15
A powertrain system includes an engine coupled to an input member of a transmission device operative to transmit torque between the input member and a torque machine and an output member. The torque machine is connected to an energy storage device. A method for controlling a powertrain system includes monitoring a temperature of the energy storage device, selecting a candidate powertrain system operating point, determining an output power from the energy storage device associated with the candidate powertrain system operating point, determining a power loss for operating the powertrain system at the candidate powertrain system operating point, and determining operating costs for operating the powertrain system at the candidate powertrain system operating point associated with the power loss and based upon the temperature of the energy storage device.
A method for controlling a powertrain system includes controlling a first power actuator based upon a set of power constraints for the first power actuator. The method further includes controlling a second power actuator based upon the set of power constraints for the second power actuator.
(54) Title of the invention: METHOD FOR CONTROLLING A POWERTRAIN SYSTEM BASED UPON TORQUE MACHINE TEMPERATURE

(51) International classification: B60K41/28; B60W20/00

(31) Priority Document No: 60/985,260

(32) Priority Date: 04/11/2007

(33) Name of priority country: U.S.A.

(86) International Application No: NA

Filing Date: NA

(87) International Publication No: NA

(61) Patent of Addition to Application Number: NA

Filing Date: NA

(62) Divisional to Application Number: NA

Filing Date: NA

(57) Abstract:

A powertrain system includes an engine coupled to an input member of a transmission device operative to transmit torque between the input member and a torque machine and an output member. The torque machine is connected to an energy storage device. A method for controlling the powertrain system include monitoring a temperature of the torque machine, selecting a candidate powertrain system operating point, determining an electrical power input and a motor power output of the torque machine for the candidate powertrain system operating point, determining a power loss for the torque machine associated with the motor power output of the torque machine and the electrical power input, and determining operating costs for operating the powertrain system at the candidate powertrain system operating point associated with the power loss from the torque machine and based upon the temperature of the torque machine.

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1) ANTHONY H. HEAP

No. of Pages: 70 No. of Claims: 20
A method for controlling a powertrain includes operating a transmission in a neutral operating range state, monitoring commands affecting an input speed, monitoring a tracked clutch slip speed, determining constraints on an input acceleration based upon the commands, determining a clutch slip acceleration profile based upon the constraints on the input acceleration, determining an input acceleration profile based upon the clutch slip acceleration profile, and controlling the powertrain based upon the clutch slip acceleration profile and the input acceleration profile.
**Title of the invention**: TORQUE BASED CRANK CONTROL

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<td><strong>(31) Priority Document No</strong></td>
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<td>02/11/2007</td>
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<td><strong>(71) Name of Applicant</strong></td>
<td>1) GM GLOBAL TECHNOLOGY OPERATIONS, INC. Address of Applicant: 300 GM RENAISSANCE CENTER, DETROIT, MICHIGAN U.S.A.</td>
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<tr>
<td><strong>(72) Name of Inventor</strong></td>
<td>1) JEFFREY M. KAISER 2) MICHAEL LIVSHIZ 3) CHRISTOPHER E. WHINEY</td>
</tr>
<tr>
<td><strong>(57) Abstract</strong></td>
<td>A control system and method of regulating operation of an engine includes a minimum torque module that determines a torque request based upon at least two of measured revolutions per minute (RPM) of an engine, a barometric pressure, and a coolant temperature of the engine. A first engine air module can determine a first desired engine air value based upon predetermined actuator values and a torque value based upon the torque request. The predetermined actuator values can include a predetermined RPM of the engine. A throttle area module can determine a desired throttle area based upon the first desired engine air value and the predetermined RPM.</td>
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No. of Pages: 27  No. of Claims: 20
A method to control a powertrain including a transmission, an engine, and an electric machine includes monitoring an input speed, monitoring an output speed, upon initiation of a transmission shift, determining a plurality of input acceleration profiles for controlling the engine and electric machine during the shift, identifying an input acceleration constraint affecting one of the input acceleration profiles, reprofiling the input acceleration profiles based upon the identified input acceleration constraint, and controlling operation of the engine and electric machine based upon the reprofiled input acceleration profiles.
A method to control an electro-mechanical transmission mechanically-operatively coupled to an internal combustion engine and first and second electric machines to transmit power to an output member includes determining motor torque constraints and battery power constraints. A preferred output torque to an output member is determined that is achievable within the motor torque constraints and is achievable within a range for a first torque input and is achievable within a range for a second torque input and is based upon the battery power constraints.
A method for controlling a powertrain system including a transmission mechanically coupled to an engine and an electric machine to transfer power to an output member, the transmission selectively operative in one of a plurality of operating range states includes monitoring operator inputs to an accelerator pedal, determining a preferred operating point of the powertrain based upon the operator inputs, determining a preferred operating range state of the transmission based upon the preferred operating point, determining lead control signals for the engine and the transmission based upon the preferred operating point and the preferred operating range state of the transmission, determining immediate control signals for the electric machine and the transmission, wherein the immediate control signals are based upon a lead period calibrated to a difference in control signal reaction times of the engine and the electric machine in order to effect changes to an actual electric machine output substantially simultaneously with changes to an actual engine output, controlling operation of the engine based upon the lead control signals for the engine and the transmission, and controlling operation of the electric machine based upon the immediate control signals for the electric machine and the transmission.
A hybrid transmission is operative to transfer power between an input member and first and second torque machines and an output member in a fixed gear operating range state. The first and second torque machines are connected to an energy storage device. A method for controlling the hybrid transmission includes determining an output torque command at the output member, determining motor torque constraints for the first and second torque machines and determining power constraints for the energy storage device, iteratively selecting candidate input torques transferable to the input member and associated output torques, determining a second torque constraint associated with the candidate input torque, determining a third torque constraint associated with the candidate input torque, and determining a preferred input torque comprising the candidate input torque that achieves the commanded output torque at the output member and satisfies the motor torque constraints for the first and second torque machines, satisfies the power constraints for the energy storage device, and satisfies the second and third torque constraints associated with the candidate input torque when operating in the fixed gear operating range state.
A method for controlling a hybrid powertrain system including an engine selectively operative in one of an all-cylinder state and a cylinder deactivation state based upon power costs includes determining engine power costs for each operating range state of the transmission, determining a system power cost, selecting a preferred cost and corresponding engine operating points, selecting a preferred operating range state, selecting the engine state, and controlling the engine based upon the selected operating range state, the selected engine state, and the engine operating points.
A control system and method of regulating operation of an engine includes a minimum torque module that determines a torque request based upon at least two of measured revolutions per minute (RPM) of an engine, a barometric pressure, and a coolant temperature of the engine. A first engine air module can determine a first desired engine air value based upon predetermined actuator values and a torque value based upon the torque request. The predetermined actuator values can include a predetermined RPM of the engine. A throttle area module can determine a desired throttle area based upon the first desired engine air value and the predetermined RPM.
A powertrain system includes a hybrid transmission device operative to transfer power between an input member and torque machines and an output member in one of a plurality of operating range states. The torque machines are connected to an energy storage device. A method for operating the powertrain system includes determining a permissible range of input operating points to the input member, determining ranges of motor torques for the torque machines, determining an available power range from the energy storage device, selecting a candidate input operating point within the permissible range of input operating points, and determining maximum and minimum achievable output torques transferable to the output member for the candidate engine operating point within the ranges of motor torques for the torque machines and within the available power range from the energy storage device in a candidate operating range state.
A powertrain system includes an engine coupled to an electromechanical transmission to transfer power between the engine and a plurality of torque generating machines and an output member. The transmission is operative in one of a plurality of operating range states through selective application of torque transfer clutches and the engine is operatively coupled to a main hydraulic pump to supply pressurized fluid to a hydraulic circuit operative to apply the torque transfer clutches. A method for controlling the powertrain system includes determining an output torque request to the output member, determining a pressure output of the main hydraulic pump based upon an engine input speed, calculating a clutch reactive torque capacity for each applied torque transfer clutch based upon the pressure output of the main hydraulic pump, and determining a preferred engine input speed to achieve the clutch reactive torque capacity to meet the output torque request to the output member.
A hybrid transmission includes a torque machine and an energy storage device connected thereto. The hybrid transmission is operative to transfer power between an input member and an output member and the torque machines in a fixed gear operating range state. A method for controlling the hybrid transmission includes determining a preferred output torque, determining a relationship between power from the energy storage device and an output torque of the transmission, determining power constraints from the energy storage device, determining motor torque constraints for the torque machine, determining linear torque constraints to the output torque based upon the motor torque constraints for the torque machine, determining quadratic output torque constraints based upon the power constraints from the energy storage device and the relationship between the power from the energy storage device and the output torque of the transmission device, and determining an output torque to the output member responsive to the preferred output torque and achievable based upon the linear output torque constraints and the quadratic output torque constraints.
A powertrain includes an engine coupled to an input member of a hybrid transmission. The hybrid transmission is operative to transfer power between an input member and a plurality of torque machines and an output member. A method for controlling the powertrain includes, monitoring operation of the hybrid transmission, determining motor torque offsets for the torque machines, transforming the motor torque offsets for the torque machines to an input torque offset and an output torque offset of the hybrid transmission, and adjusting operation of the engine based upon the input torque offset and the output torque offset of the hybrid transmission.

**FIG. 1**

No. of Pages : 52 No. of Claims : 10
A hybrid transmission is operative to transfer torque between an input member and torque machines and an output member in one of a plurality of fixed gear and continuously variable operating range states through selective application of torque transfer clutches. The torque machines are operative to transfer power from an energy storage device. A method for controlling the hybrid transmission includes operating the hybrid transmission in one of the operating range states, determining a first set of internal system constraints on output torque transferred to the output member, determining a second set of internal system constraints on the output torque transferred to the output member, and determining an allowable output torque range that is achievable within the first set of internal system constraints and the second set of internal system constraints on the output torque transferred to the output member.
A powertrain system includes an engine coupled to an input member of a transmission operative to transmit power between the input member, a torque machine and an output member. The torque machine is connected to an energy storage device. The engine is selectively operative in engine states comprising an engine-on state and an engine-off state. A method for controlling a powertrain system includes determining a first power range for output power of the energy storage device, commanding the engine to transition from a first engine state to a second engine state, and expanding the first power range of the energy storage device and controlling the torque machine based upon the expanded power range of the energy storage device during the transition from the first engine state to the second engine state.
A method and article of manufacture are provided to monitor a sensing system operative to monitor electrical current in a transmission line between an electrical storage device and an electrical machine. The sensing system comprises first and second sensors, operative to monitor first and second ranges of electrical current. The method comprises determining outputs of the first and second sensors are valid, and comparing outputs of the first and second sensors when current is substantially zero. The method comprises comparing magnitudes of the outputs of the first and second sensors when the monitored electrical current, and monitoring polarity of each of the outputs of the first and second sensors.
Title of the invention: HYBRID VEHICLE DRIVELINE NOISE DAMPER

Abstract:
A vehicle driveline includes a hybrid transmission, having a mass damper that provides noise and vibration damping over a broad range of frequencies. The damper provides damping at a desired frequency and all greater frequencies to act as a low pass filter for noise and vibration. A specific mass and inertia for the damper are selected to target the desired frequency range. Due to the hybrid design of the transmission the energy that is used to rotate the damper and provide the desired inertia is recovered by at least one motor/generator within the transmission during deceleration of the vehicle.
An internal combustion engine is controlled to achieve a preferred temperature of the exhaust aftertreatment system and to minimize a total engine energy loss. A transmission is controlled to achieve a torque output based upon the preferred engine operation.
Title of the invention: METHOD FOR CONTROLLING VOLTAGE WITHIN A POWERTRAIN SYSTEM

A method for controlling a powertrain system includes monitoring voltage of an energy storage device. The method further includes modifying a preferred voltage limit when the voltage of the energy storage device transgresses a trigger voltage limit, and determining the power constraint of a first power actuator based on the estimated output power of the energy storage device when the voltage of the energy storage device transgresses the preferred voltage limit.

No. of Pages : 79 No. of Claims : 20
Title of the invention : METHOD AND APAPRATUS FOR CONTROLLING A HYBRID POWERTRAIN SYSTEM

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Abstract:

A control method for vehicular hybrid powertrain system includes monitoring operator inputs to an accelerator pedal and a transmission gear selector, and determining an operator torque request based upon the operator inputs to the accelerator pedal and the transmission gear selector. Torque output from the electric machine is commanded based upon the operator torque request. Engine output is controlled based upon the operator torque request and the commanded torque output from the electric machine. Vehicle hood position is monitored and the engine output is controlled correlative to the operator input to the accelerator pedal when the monitored position of the vehicle hood is open and the operator input to the transmission gear selector is one of a PARK and a NEUTRAL position.
A method of making a motor stator core having a back iron and a plurality of teeth extending radially inward from the back iron includes providing the plurality of teeth and the back iron from oriented steel so that a magnetic flux transmission path is formed with superior properties in essentially one direction. At least one of the plurality of teeth and the back iron is annealed in selected portions so as to improve magnetic flux transmission in a second direction, different from the one direction.
A diagnostic system for a hybrid vehicle comprises a processor module and a motor control module. The processor module outputs a first speed value. The motor control module controls torque output by an electric motor of the hybrid vehicle and outputs a key value based on the first speed value. The processor module outputs a second speed value after receiving the key value, and the motor control module selectively diagnoses a fault in the processor module based on a comparison of the second speed value with the first speed value.

No. of Pages : 35 No. of Claims : 28
A diagnostic system for a hybrid vehicle comprises a motor control module and a fault diagnostic module. The motor control module controls torque output of an electric motor having a predetermined number of phases. The fault diagnostic module determines a position of a rotor of the electric motor, aligns the rotor with a phase angle of one of the phases, selectively diagnoses a fault based on a current of at least one of the phases, and selectively disables the electric motor based on the diagnosis.
Title of the invention: METHOD AND CONTROL ARCHITECTURE TO DETERMINE MOTOR TORQUE SPLIT IN FIXED GEAR OPERATION FOR A HYBRID POWERTRAIN SYSTEM

An electro-mechanical transmission is operative to transmit mechanical torque originating from an engine and first and second electric machines to an output member. The electric machines are electrically-operatively connected to an energy storage system for electrical power flow therebetween. A Method for operating the electro-mechanical transmission includes operating the electromechanical transmission in a fixed gear operating range state, determining a minimum power flow between the energy storage system and the first and second electric machines to meet an operator torque request based upon electrical power constraints and motor torque constraints, commanding a motor torque from the first electric machine based upon the minimum power flow, and commanding a motor torque from the second electric machine based upon the minimum power flow, a torque input from the engine and the commanded motor torque from the first electric machine to meet the operator torque request in the fixed gear operating range state.
A method to determine a preferred operating point for an internal combustion engine includes determining a current set of candidate operating points for a current search iteration. The method further includes iteratively determining an operating cost for operating the internal combustion engine at each candidate operating point of the current search iteration, and determining the preferred operating point for operating the internal combustion engine after a predetermined number of search iterations.
A method for controlling a powertrain includes determining an operator torque request, determining a time-based derivative of the operator torque request, determining a first future time, and predicting a change in the operator torque request based upon the operator torque request, the time-based derivative of the operator torque request, and the first future time.
A powertrain system includes a transmission device operative to transfer power between an input member and a plurality of torque machines and an output member. The torque machines are connected to an energy storage device and the transmission device is operative in one of a plurality of operating range states. A method for controlling the powertrain system includes monitoring available power from the energy storage device, determining system constraints, determining constraints on an output torque to the output member based upon the system constraints and the available power from the energy storage device, determining an operator torque request, determining an output torque command based upon the constraints on the output torque and the operator torque request, and determining preferred torque commands for each of the torque machines based upon the output torque command.
Title of the invention: METHOD AND APPARATUS TO PERFORM ASYNCHRONOUS SHIFTS WITH ONCOMING SLIPPING CLUTCH TORQUE FOR A HYBRID POWERTRAIN SYSTEM

International classification: B60K17/00

Priority Document No: 60/985283
Priority Date: 04/11/2007
Name of priority country: U.S.A.

Abstract:
A method to control a powertrain including a transmission, an engine, and an electric machine includes monitoring a desired transmission shift including an oncoming clutch, monitoring operational parameters of the powertrain, monitoring a maximum electric machine torque capacity, determining a desired output torque profile through the desired transmission shift, determining a maximum electric machine torque capability profile through the desired transmission shift based upon the maximum electric machine torque capacity and the operational parameters, comparing the desired output torque profile to the maximum electric machine torque capability profile, determining a preferred oncoming clutch torque profile through the desired transmission shift based upon the comparing, and executing a clutch assisted shift based upon the preferred oncoming clutch torque profile.
A method for controlling a powertrain system includes monitoring an operator torque request, selecting a candidate powertrain system operating point, and determining a preferred engine torque range, a preferred torque machine torque range, and a preferred energy storage device output power range. The method further includes determining an engine torque, a torque machine torque, and an energy storage device output power based upon the operator torque request and the candidate powertrain system operating point. Power costs for operating the powertrain at the candidate powertrain system operating point are determined based on the determined engine torque, the determined torque machine torque, and the determined energy storage device output power range. Penalty costs are determined relative to the preferred engine torque range, the preferred torque machine torque range, and the preferred energy storage device output power range for operating the powertrain at the candidate powertrain system operating point. An operating cost for operating the powertrain at the candidate powertrain system operating point is determined based on the power costs and the penalty costs.
A hybrid powertrain system includes a transmission device operative to transfer power between an input member, a torque machine and an output member, the output member coupled to a driveline coupled to a wheel to transfer tractive torque therebetween. A method for controlling the hybrid powertrain system includes monitoring an operator torque request, determining an operating range state of the transmission device, determining a net output torque to the output member based upon the operator torque request, determining a lash state of the driveline, and determining a command for transferring output torque to the output member based upon the operating range state of the transmission device, the net output torque, and the lash state of the driveline.
A rotating electric machine apparatus includes at least one end plate associated with an inner assembly unit that operates to prevent contact between the inner assembly unit and an outer assembly unit. The end plate is peripherally sized to allow the slidable assembly of the inner assembly unit into the outer assembly unit while preventing undesirable contact of the inner assembly unit with the outer assembly unit.
An internal combustion engine is fluidly connected to an exhaust aftertreatment system and operatively connected to an electro-mechanical transmission to transmit tractive power to a driveline. The engine is controlled during an engine operating cycle by determining a temperature of the exhaust aftertreatment system and adjusting power output of the engine based upon the temperature of the exhaust aftertreatment system and a preferred temperature range of the exhaust aftertreatment system. The electro-mechanical transmission is controlled to transmit tractive power to the driveline to meet an operator torque request based upon the adjusted power output of the engine.
A method for controlling a hybrid powertrain system selectively operative in one of a plurality of operating range states including an engine includes monitoring an operator torque request and a rotational speed of the output member, determining inertial effects of the transmissions, determining motor torque outputs from the electrical machines and an engine based upon the inertial effects, and selecting a preferred operating range state and a preferred input speed from the engine to the transmission based upon the operator torque request and the inertial effects.
METHOD AND APPARATUS FOR SOFT COSTING INPUT SPEED AND OUTPUT SPEED IN MODE AND FIXED GEAR AS FUNCTION OF SYSTEM TEMPERATURES FOR COLD AND HOT OPERATION FOR A HYBRID POWERTRAIN SYSTEM

Abstract:
Methods and systems for manipulating inputs relating to transmission shifting events in a hybrid-engine powered vehicle equipped with an electro-mechanical hybrid transmission include sets of preferability factors inputted from engine sensors are combined in a microprocessor or computer with other preferability factors generated during engine and vehicle operation to provide an output for a transmission control module, which may execute an operating range or engine state change. Desirable input speeds for a transmission are determined by defining minimum input speeds for each potential transmission operating range state, and ascribing biasing costs to potential transmission input speeds which are slower than the minimum input speeds defined for each potential transmission operating range state. A single transmission input speed is selected and preferability factors are determined, which are preferentially weighted to enable selective commandment of changes in the transmission operating range state and engine state.
Title of the invention: METHOD FOR SELECTION OF OPTIMAL MODE AND GEAR AND INPUT SPEED FOR PRESELECT OR TAP UP/DOWN OPERATION

Abstract:
A powertrain system includes an engine mechanically coupled to an electro-mechanical transmission at an input thereto selectively operative in one of a plurality of transmission operating range states and one of a plurality of engine states. A method for controlling the powertrain system includes combining sets of preferability factors inputted from engine sensors in a microprocessor or computer with other preferability factors generated during engine and vehicle operation to provide an output for a transmission control module, which may execute an operating range or engine state change.
Title of the invention: CONTROL OF ENGINE TORQUE FOR TRACTION AND STABILITY CONTROL EVENTS FOR A HYBRID POWERTRAIN SYSTEM

Abstract:
An internal combustion engine is mechanically coupled to a hybrid transmission to transmit mechanical power to an output member. A method for controlling the internal combustion engine includes determining an accelerator output torque request based upon an operator input to the accelerator pedal, and determining an axle torque response type. A preferred input torque from the engine to the hybrid transmission is determined based upon the accelerator output torque request. An allowable range of input torque from the engine which can be reacted with the hybrid transmission is determined based upon the accelerator output torque request and the axle torque response type. The engine is controlled to meet the preferred input torque when the preferred input torque is within the allowable range of input torque from the engine. The engine is controlled within the allowable range of input torque from the engine when the preferred input torque is outside the allowable range of input torques from the engine.
A method for operating an engine includes defining a two-dimensional search region based upon an input power transmittable between the internal combustion engine and an electro-mechanical transmission. The method further includes iteratively dividing the two-dimensional search region into a plurality of subregions based upon one of the input power and the input speed, iteratively determining an engine operating point within each of the subregions, iteratively calculating an operating cost to operate the internal combustion engine and the electro-mechanical transmission to meet the operator torque request for each engine operating point within each of the subregions, and iteratively identifying the subregion having a minimum operating cost to meet the operator torque request. A preferred engine operating point is determined based upon the engine operating point within the identified subregion having the minimum operating cost to meet the operator torque request.
A powertrain includes an electro-mechanical transmission mechanically-operatively coupled to an internal combustion engine and an electric machine adapted to selectively transmit mechanical power to an output member through selective application of a plurality of clutches. A method for controlling the powertrain includes commanding a shift from a fixed gear operating range state to a second operating range state, commanding decreased reactive torque through an off-going clutch during a torque phase of said commanded shift, and decreasing said reactive torque through said off-going clutch through control of engine input torque.
Abstract:
Novel crystalline hydrate form of (S)-1-phenylethylammonium (R)-diphenyl-methanesulphinyl-acetate and its use in a process for the preparation of (R)-benzhydrylsulphinylacetamide.

No. of Pages : 13 No. of Claims : 10
A powertrain includes an electro-mechanical transmission mechanically-operatively coupled to an internal combustion engine and an electric machine adapted to selectively transmit mechanical power to an output member. A method for controlling the powertrain includes operating the transmission in an operating range state wherein input speed can operate independent of output speed and wherein a reactive torque is transmitted through the transmission. The method further includes monitoring commands affecting a requested output torque, monitoring a calculated output torque, and prioritizing between an input acceleration of the transmission and an output torque of the transmission based upon whether operating the transmission in the operating range state is in transient operation or stable operation.
An engine and a second power generating device transmit power through a transmission to a driveline to a wheel. A control module determines a regenerative braking axle torque capacity and a regenerative braking torque. Power output from the second power generating device is controlled based upon a regenerative braking axle torque request. A brake control module determines a total braking torque request and generates the regenerative braking axle torque request based upon the total braking torque request, the regenerative braking axle torque capacity, and the regenerative braking torque. The brake control module controls a friction brake.
A powertrain includes an electro-mechanical transmission mechanically-operatively coupled to an internal combustion engine and an electric machine adapted to selectively transmit mechanical power to an output member. A method for controlling the powertrain includes commanding a shift from a first operating range state to a second operating range state, identifying an off-going clutch, controlling torque output from said electric machine to offload reactive torque transmitted through said off-going clutch, selectively applying an oncoming clutch to offload reactive torque transmitted through said off-going clutch, and reducing a clutch torque capacity of said off-going clutch when said reactive torque transmitted through said off-going clutch is substantially zero.
Title of the invention: METHOD AND APPARATUS FOR MAXIMUM AND MINIMUM OUTPUT TORQUE PERFORMANCE BY SELECTION OF HYBRID RANGE STATE AND INPUT SPEED FOR A HYBRID POWERTRAIN SYSTEM

Abstract:
A powertrain system includes an engine mechanically coupled to an electro-mechanical transmission selectively operative in one of a plurality of transmission operating range states and one of a plurality of engine states. A method for controlling the powertrain system includes determining a current transmission operating range state and engine state, determining at least one potential transmission operating range state and engine state, providing an operator torque request, determining preferability factors associated with the current transmission operating range state and engine state, and potential transmission operating range states and engine states, preferentially weighting the preferability factors for the current transmission operating range state and engine state, and selectively commanding changing the current transmission operating range state and engine state based upon the preferability factors and the operator torque request.
A hybrid powertrain is provided that includes an engine operatively connected with an input member. The powertrain includes a transmission with first and second electric motor/generators, a differential gear set having multiple members, and selectively engagable torque-transmitting mechanisms. The input member, the output member, the engine and the motor/generators are selectively interconnected through the differential gear set by engagement of the torque-transmitting mechanisms in different combinations. An electronic controller controls the electric motor/generators, the engine and the torque-transmitting mechanisms to provide multiple operating modes between the input member and the output member, including an electric-only operating mode in which the engine is off and one motor generator acts as a motor to provide torque at the output member while the other electric motor/generator can remain substantially stationary, and another electric-only operating mode in which both electric motor/generators act as motors to provide torque at the output member.

![Diagram](image)

No. of Pages : 33 No. of Claims : 19
In various embodiments, an electric motor drive system (400, FIG. 4) and a motor vehicle (1000, FIG. 10) include an inverter (404, FIG. 4) adapted to generate (604, FIG. 6), based on inverter control inputs, a number, N, of phase current waveforms (118, FIG. 1), and a phase current sampling apparatus (408, FIG. 4) having a same number, N, of current sensors (502, 503, 504, FIG. 5). Each of the current sensors is adapted to receive one of the phase current waveforms, and the current sensors are adapted simultaneously to sample the phase current waveforms and to generate digital values representing amplitudes of the phase current waveforms. The system and motor vehicle also include a controller (410, FIG. 4) adapted to receive the digital values, to perform an evaluation of the digital values, and to generate the inverter control inputs (462, FIG. 4) based on the evaluation.
In various embodiments, a phase current sampling apparatus (300, 600, FIGs 3, 6), an electric motor drive system (100, FIG. 1), and a motor vehicle (1200, FIG. 12) include switching circuitry adapted to receive first and second phase current waveforms. The switching circuitry provides the first phase current waveform during at least two offset sampling instants, and provides the second phase current waveform during a reference sampling instant. An analog-to-digital converter is adapted to sample the first phase current waveform at the offset sampling instants, and to sample the second phase current waveform at the reference sampling instant. An embodiment of a method for regulating phase current waveforms includes an analog-to-digital converter generating samples of a first phase current waveform at sampling instants that occur before and after a reference sampling instant, and generating a sample of a second phase current waveform at the reference sampling instant.
Methods and apparatus are provided for improving operational characteristics of a concentrated winding machine. According to an example embodiment, an apparatus comprises stator teeth having distal ends, the stator teeth arranged in an annular fashion about an axis to define stator slots between adjacent teeth and slot openings between the distal ends of the adjacent teeth, the stator teeth structured to prevent relative movement between adjacent teeth. The apparatus further comprises magnetic wedges structured to be inserted between the distal ends of the adjacent teeth to close the slot openings.
An image pickup apparatus including a chromatic aberration of magnification correction device to correct chromatic aberration of magnification of an image by converting coordinates of pixel data of multiple color components of the image using multiple first coordinate conversion memories corresponding to the multiple color components and a distortion correction device to correct distortion of the image corrected with regard to the chromatic aberration of magnification by converting coordinates of the pixel data of multiple color components of the image at one time using a second coordinate conversion memory shared by the multiple color components.

ENTIRE FUNCTION BLOCK DIAGRAM

No. of Pages : 35 No. of Claims : 7
The present invention relates to a dye composition for keratin fibres, and in particular for human keratin fibres such as the hair, comprising, in a medium suitable for dyeing: (A) one or more nonionic derivative(s) of cellulose comprising at least one hydrophobic substituent containing from 8 to 30 carbon atoms; (B) one or more oxidation base(s) chosen from diaminodiazacyclopentene derivatives; (C) one or more oxidation coupler(s). The present invention also relates to a process for dyeing keratin fibres using such a composition; and also to the use of this composition for dyeing keratin fibres.

The Patent Office Journal 05/06/2009 26457
The present invention relates to a dye composition for keratin fibres, and in particular for human keratin fibres such as the hair, comprising, in a medium suitable for dyeing: (A) one or more nonionic derivative(s) of cellulose comprising one or more hydrophobic substituent(s) containing from 8 to 30 carbon atoms; (B) one or more C₈-C₃₀ fatty acid ester(s); and (C) one or more oxidation dye(s). The present invention also relates to a process for dyeing keratin fibres using such a composition; and also to the use of this composition for dyeing keratinous fibres.
The present invention relates to a dye composition for keratin fibres, and in particular for human keratin fibres such as the hair, comprising, in a medium suitable for dyeing: (A) one or more nonionic derivative(s) of cellulose comprising one or more hydrophobic substituent(s) containing from 8 to 30 carbon atoms; (B) one or more nonionic, nonhydrophobic polymer(s) of the hydroxyalkylcellulose type; and (C) one or more oxidation dye(s). The present invention also relates to a process for dyeing keratin fibres using such a composition; and also to the use of this composition for dyeing keratinous fibres.
**Title of the invention:** BURGLAR-PROOF DEVICE

**Abstract:**
A burglar-proof device A is composed of a control element B and a switching element C. The switching element C in a carrier E is controlled by the control element B, allowing the switching element C to reduce electricity of a power supply element D of the carrier E until that the carrier E is unable to be started, so as to achieve the burglar-proof effect.

**Diagram:**
```
  A
 / \  
D  B  E
     / 
    /   
   /     
  Control Element
 /       
/         
Switching Element
```

No. of Pages: 15 No. of Claims: 8
A diagnostic system for an engine includes a pressure monitoring module that determines a plurality of first average pressure values and a plurality of second average pressure values of a fluid supply provided to a camshaft phaser. A diagnostic module identifies one of a plurality of cylinders associated with a failed variable valve lift mechanism based on the first and said second average pressure values. Each of the first and the second average pressure values respectively correspond to each of the plurality of cylinders.
Title of the invention : PROCESS FOR THE PREPARATION OF PURE ACITRETIN

Abstract :
The invention relates to a process for the preparation of substantially pure Acitretin, which comprises the following steps: a) salifying crude Acitretin with an amine of formula (II) R₁R₂R₃N (II) wherein each of R₁, R₂ and R₃ is, independently, hydrogen, a C₁-C₆ alkyl group, a C₃-C₈ cycloalkyl group, a phenyl, morpholino or pyridine group, in the presence of an alcohol or water-alcohol solvent; and b) adding an organic acid to the salt obtained in step a).

No. of Pages : 7 No. of Claims : 6
An electric machinery provided with a PM magnetic pole sandwiched by a permeable polar face and a magnetic circuit from an individual magnetic pole provides an innovative design of having disposed the PM magnetic pole sandwiched between the permeable polar face and the magnetic circuit from the individual magnetic pole to prevent PM magnetic pole from falling off and avoid PM magnetic pole magnetic force from being weakened by inverse excitation during the operation.
Title of the invention: ELECTRIC MACHINERY OF PERMEABLE POLAR FACE & MAGNETIC CIRCUIT SANDWICHED PM MAGNETIC POLE

An electric machinery provided with a PM magnetic pole sandwiched by conduction winding excited magnetic poles is related to an innovative design of having a PM magnetic pole sandwiched by individual magnetic poles of conduction winding excited so to prevent the PM magnetic pole from falling off due to vibration and to prevent from weakening magnetic force by inverse excitement when the electric machinery is running.

No. of Pages: 88
No. of Claims: 24
A method of evaluating intake air temperature (IAT) sensor rationality may include measuring a first intake air temperature associated with an engine using an IAT sensor when the engine is in a non-operating condition, determining a second intake air temperature associated with the engine using a hot wire air flow meter when the engine is in the non-operating condition, and indicating an IAT sensor fault when a difference between the first and second intake air temperatures exceeds a predetermined temperature limit.
Methods and systems are provided for operating an electric motor having at least one winding coupled to first and second power supplies. A torque command for the electric motor is received. A present power reserve for the first and second power supplies is determined based at least in part on the torque command. An operating voltage for the second power supply is determined based on the present power reserve. The operating voltage for the second power supply is applied to the at least one winding. The application of the operating voltage allowing the present power reserve to flow between the first and second power supplies and the motor.
An oxygen sensor readiness module comprises a voltage source, a current detection module, and a control module. The voltage source selectively produces a bias signal, which is applied to a sensing element of an oxygen sensor. The current detection module measures a pumping current of the oxygen sensor. The control module generates a readiness signal based upon a comparison of the pumping current with a pumping current threshold.
An internal combustion engine is connected to a transmission to transmit tractive power to a driveline. Engine coolant temperature is determined, and power output of the engine is adjusted based upon the coolant temperature and preferred coolant temperature range. The transmission is controlled to transmit tractive power to the driveline to meet an operator torque request based upon the adjusted power output of the engine.
A device for adjusting the angular position of the headlights (12, 14) of a vehicle, comprising: - a control device (16) including a supporting body (24), a screw (42) associated to a turnable adjustment knob (52), and a mobile member (30), which is engaged by said screw (42) and can slide in a rectilinear direction (32) within said body (24), - two actuator devices (18, 20) associated to respective headlights (12, 14), each of said actuator devices (18, 20) comprising a stationary body (78, 98) and a slidable element (80, 100), which is mobile in a rectilinear direction with respect to said body (78, 98); and - a flexible transmission device (22), which connects each of said actuator devices (18, 20) with the control device (16), wherein each of said actuator devices (18, 20) comprises a preloaded elastic element (84, 102) that tends to push the respective slidable element (80, 100) in a first direction (86, 104), the flexible transmission device (22) being arranged for applying on said slidable elements (80, 100) a force opposite to the force applied by said elastic elements (84, 102), so as to keep said slidable elements (80, 100) in equilibrium under the opposed forces transmitted by the flexible transmission device (22) and by said elastic elements (84, 102).
Title of the invention: WATER HEATER AND METHOD OF CUSTOMIZING THE WATER HEATER

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Abstract:
A water heater including a vessel, a heating fixture (e.g., an electric-resistance heating element, a gas burner) having a rated maximum heating output, and a controller. The controller includes an interface and a temperature sensor. The controller can control the heating output of the heating element based on a sensed temperature of the temperature sensors. The heating output is a defined maximum heating output for the heating fixture. Also disclosed are methods of defining the capabilities of a water heater and methods of operating a water heater.
A vehicle comprising an engine compartment and a passenger compartment separated from one another by a firewall (26), and a heat-exchange assembly having a casing (30) mounted in the proximity of said firewall (26), in which the firewall (26) has a through opening (34), through which there extend pipes (38, 40) connected to heat-exchange components of said assembly, and in which a gasket (10) is compressed between a wall (39) of the casing of the heat-exchange assembly and a face of the firewall (26) set facing the passenger compartment, the gasket (10) comprising a plate-shaped support (12) made of relatively rigid plastic material and at least two layers (14) of sound-absorbent material fixed on opposite faces of said plate-shaped support (12), the gasket (10) having a face (19) facing the engine compartment, applied on which is a film (20) of impermeabilizing material, which is pressed against the face of the firewall (26) facing the passenger compartment around said opening (34), the gasket (10) being equipped with first and second through openings (16, 18) provided with respective sealing elements (22, 24) for water tightness against a tubular portion (32) of said casing (30) or against external surfaces of said pipes (38, 40).
A hybrid power system for a vehicle includes an engine, an input shaft, an output shaft, a transmission mechanism, a primary electric motor, a secondary electric motor, a power coupling mechanism, a driving wheel, a battery, and a controller. The primary electric motor is pivotally coupled to the crankshaft of the engine, and the secondary electric motor to the input shaft. The controller can govern, selectively, the secondary electric motor to drive the driving wheel for rotation; and/or the primary electric motor drives the crankshaft for rotation and then starts the engine so as to output power to drive the driving wheel for rotation. Therefore, the primary electric motor can start the engine directly, and depending on the vehicle’s traveling condition, the controller can govern the timing for the secondary electric motor and the engine to drive the driving wheel directly through the transmission system so as to transmit the power to the driving wheel, such that the vehicle can be ridden in a status of optimal energy-consumption rate.
A catheter enables real-time light measurements, for example, without limitation, diffuse reflectance, fluorescence, etc., from biological materials, such as tissue (including blood), while performing RF ablation. The catheter tip design isolates illumination and collection paths such that light exits the catheter tip and travels through the tissue of interest (e.g., cardiac tissue or blood) before returning to the catheter tip. Such a design advantageously avoids saturation of the optical detector, and ensures diffusion of the illumination light within the medium of interest. The catheter has a catheter body and a tip electrode. The tip electrode has an exterior shell, an inner layer of diffuse material and a hollow cavity, wherein the inner layer is configured to transmit light outside the tip electrode to a tissue via a set of illumination openings in the shell wall and the hollow cavity is configured to receive light from the tissue via a set of collection openings in the shell wall and the inner layer. An inner surface of the inner layer has an opaque coating to isolate light injected into the inner layer from light collected in the hollow cavity. There are a first optical waveguide extending between the catheter body and the tip electrode to inject light into the inner layer and illuminate the tissue, and a second optical waveguide extending between the catheter body and the tip electrode to collect the recaptured light in the hollow cavity.
Title of the invention: INK-JET PRINT HEAD

An ink-jet printer head has a plurality of print modules each having a tip formed with a respective nozzle orifice from ink droplets can be projected. A flexibly deformable mounting element has a plurality of seats each holding a respective one of the tips so that the element can be deformed to fit a substrate to be printed. The mounting element is readily deformable so that the print modules can be oriented to fit the substrate being printed.
A control arrangement for power transmission includes a gearshift mechanism, a pressure-plate clutch, a centrifugal clutch, a transmission shaft, a coupling mechanism, and a power driver. The coupling mechanism can couple, selectively, to the power driver and the transmission shaft, so that the power driver can be employed for a gearshift; or not to couple to the power driver and the transmission shaft, so that the manipulating lever can be employed for the gearshift. Either the power driver or the manipulating lever can be employed to achieve the gearshift so as to improve convenience and mobility of manipulation of the gearshift, and to prevent the disadvantage that in case the power driver fails the gearshift would not be able to be manipulated.
(54) Title of the invention : DISPOSABLE AMPOULE FOR AN AEROSOL GENERATING DEVICE

| (51) International classification | :A61M 11/00 |
| (31) Priority Document No | :10 2007 056 462.9 |
| (32) Priority Date | :23/11/2007 |
| (33) Name of priority country | :Germany |
| (36) International Application No | :NA |
| Filing Date | :NA |
| (87) International Publication No | : NA |
| (61) Patent of Addition to Application Number | :NA |
| Filing Date | :NA |
| (62) Divisional to Application Number | :NA |
| Filing Date | :NA |

(57) Abstract:
Disposable ampoule for use in an aerosol generating device, comprising: a medicament container that contains a medicament and is formed of a container body (10) and a container bottom (11), and a predetermined break point (12) that at least partly surrounds the container bottom, characterised by a collar (15) that surrounds the predetermined break point (12) at its outside and extends the container body (10) over and beyond the container bottom (11).

No. of Pages : 29 No. of Claims : 19
A biopsy device includes a probe and holster that may be coupled together. The probe includes a cannula with a transverse opening and a cutter within the cannula. The holster includes a mechanism that is operable to rotate and translate the cutter within the cannula. In one example, the holster also includes a user interface having buttons and indicators. The indicators may indicate, e.g., the longitudinal position of the cutter within the cannula and an error condition. The buttons may be operable to, e.g., selectively and incrementally adjust the longitudinal position of the cutter within the cannula, initiate a sampling cycle, initiate a clear probe cycle, and initiate a lateral vacuum cycle. The user interface may also include a trigger operable to cock and fire the cannula into tissue. The user interface may be provided as one or more membranes on one or more sidewalls of the holster.
The Patent Office Journal 05/06/2009 26478

(12) PATENT APPLICATION PUBLICATION  (21) Application No.2030/KOL/2008 A
(19) INDIA
(22) Date of filing of Application :20/11/2008  (43) Publication Date : 05/06/2009

(54) Title of the invention : BIOPSY DEVICE WITH MOTORIZED NEEDLE COCKING

(51) International classification : A61B10/00 
(31) Priority Document No. :11/942,992 
(32) Priority Date :20/11/2007 
(33) Name of priority country : U.S.A. 
(36) Priority Document No :11/942,992 
(37) Priority Date :20/11/2007 
(33) Name of priority country : U.S.A. 
(31) Priority Document No :11/942,992 
(37) Priority Date :20/11/2007 
(33) Name of priority country : U.S.A. 
(31) Priority Document No :11/942,992 
(37) Priority Date :20/11/2007 
(33) Name of priority country : U.S.A. 
(86) International Application No :NA 
(87) International Publication No : NA 
(61) Patent of Addition to Application Number :NA 
(62) Divisional to Application Number :NA 
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2)JOHN R. ANDRISEK 
3)RICHARD P. NUCHOLS 
4)MICHAEL J. ANDREYKO 
5)WELLS D. HABERSTICH 
(57) Abstract :
A needle may be fired into tissue by a needle firing mechanism, which may include a fork for holding the needle and a firing rod coupled with the fork. A spring urges the fork to a distal, fired position. A screw gear is coupled with the rod. A sled is positioned at the proximal end of the rod. A catch is configured to engage the sled when the sled is moved to a proximal position. The screw gear is operable to convert rotational motion from a motor and gear set into linear motion to move the rod proximally to engage the sled with the catch, thereby cocking the needle firing mechanism. The motor may also be used to translate the screw gear distally relative to the rod after the sled has engaged with the catch. A trigger is used to fire the cocked needle firing mechanism.

No. of Pages : 173 No. of Claims : 20
**Title of the invention**: DEPLOYMENT DEVICE INTERFACE FOR BIOPSY DEVICE

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<td>6) KENNETH E. HOGUE</td>
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**Abstract**:

A biopsy device includes a tissue sample holder and a cutter defining a cutter lumen. In one example, the tissue sample holder has a manifold, a plurality of chambers that are configured to separately hold tissue samples, and a cup configured to cover the manifold and chambers. The tissue sample holder is rotatable to successively align the chambers with the cutter lumen. A longitudinal passage extends along the manifold, and is positioned between two of the chambers. The manifold may be rotated to align the passage with the cutter lumen and with an opening in the cup. The passage of the manifold and the opening in the cup are configured to permit a portion of an instrument to be inserted through the opening and passage and into the cutter lumen. The instrument may be used to introduce one or more markers or medicine, etc., to a biopsy site.

No. of Pages : 173  No. of Claims : 20
A biopsy system includes a biopsy device, a vacuum canister, a vacuum control module, and a plurality of tubes. A first tube is configured to provide an axial vacuum to the biopsy device, while a second tube is configured to provide a lateral vacuum. A third tube is configured to communicate atmospheric air to the second tube. A fourth tube is configured to communicate saline to the second tube. The vacuum canister is configured to collect fluids drawn through the first tube and the second tube. The canister has a lid with trenches formed in it for retaining the first, second, third, and fourth tubes. The lid also has engagement regions for selectively pinching each of the tubes against to prevent fluid communication through selected tubes. The canister can be removably inserted into the vacuum control module, which includes components for selectively pinching the tubes against the engagement regions.
A biopsy device includes a cutter defining a cutter lumen and a tissue sample holder for collecting tissue samples. In one example, the tissue sample holder has a rotatable manifold that is configured to redirect fluid from one axial direction to an opposite axial direction. The tissue sample holder also has a plurality of tissue sample trays through which fluid may be communicated. The tissue sample trays define chambers that are each configured to separately hold tissue samples. The tissue sample trays are removable relative to the manifold. A cup is configured to cover the manifold and trays. A tissue sample holder rotation mechanism is operable to rotate the manifold to successively index each chamber of the tissue sample trays with the cutter lumen. A feature may prevent rotation of the manifold when one part of the biopsy device is separated from another part of the biopsy device.
An engine crankcase includes at least one housing, at least one bearing seat, and at least one bearing. The at least one bearing seat is provided with a bore whose wall is provided with an oil orifice, and that the at least one bearing is disposed inside the bore of the bearing seat. Further, an oil-receiving groove is formed on the wall of the bore of the bearing seat, where the oil-receiving groove and the oil orifice are communicated with each other. When the engine of a vehicle is running and pressurized lubricating oil comes from the oil orifice so as to fill in the oil-receiving groove and forms as a tensioned membrane to lubricate and sustain the at least one bearing satisfactorily, noise incurred by impact of the at least one bearing can be avoided.
APPARATUS FOR THE PRODUCTION OF LENO FABRIC

A leno device uses the link mechanisms (31, 31") to derive the movement of its half shaft (28) from the movement of its pull or lifting shafts (2, 3). The link mechanisms (31, 31") connect the shaft rods (4, 5) of the pull or lifting shafts (2, 3) to the half shaft (28), whereby a connecting rod (10, 10") extends between the two pull or lifting shafts (2, 3) from the top to the bottom through said shafts. The upper end of the connecting rod (10, 10") is connected, on both sides of the connecting rod (10, 10") via connecting levers (33, 34, 33", 34"), to the joints (36, 37, 36", 37") that are connected to the upper shaft rods (4, 5) of the pull or lifting shafts (2, 3).

No. of Pages : 22 No. of Claims : 11
**Title of the invention:** BOGIE FOR MONORAIL VEHICLES

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<th>(51) International classification</th>
<th>:B61B13/04</th>
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**Abstract:**
A bogie (10) for monorail vehicles straddling a track rail in a saddle like manner to support a vehicle body on monorail track is disclosed. The bogie (10) generally comprises of a main frame (20), a bolster (30) having a suitable hollow rectangular structure adapted to engage with the bottom part of the main frame (20) and suspension members (70) securely attached to the bolster (30) and in communication with the main frame (20). The main frame (20) having a cross stirrup like shape arch (26) and two downwardly extending arms (28) laterally embrace to the track rail. The main frame (20) are provided with guiding wheels (50) to roll on respective side surfaces of the track rail and each end of the extending arm (28) of the main frame (20) is provided with a stabilizing wheel (60) to roll on respective lower side surface of the track rail. The bolster (30) includes a pair bearing sockets (32) spaced apart arranged (30) to receive bearings (42) for a shaft (44) of load carrying wheels (40). The bolster (30) enables to dismantle from the main frame (20) for maintenance or replacement of failure parts. The suspension members (70) include vertical air suspension means (72) and a shock absorber means (74) to provide better ride quality to the bogie.
A protective film structure is disclosed, which comprises: a substrate, capable of adhering itself onto any object; a release tag, connected to a side of the substrate in a manner that it is extruding from the substrate while forming an irregular cut at the joint of the release tag and the substrate; wherein, at least a support tag is formed by the contour of the irregular cut in a manner that each is formed bulging toward the substrate from the joint of the two to be used as a support for raising the release tag. With the aforesaid structure, when the release tag is bended toward the substrate, the at least one support tag will be brought along to flip out of the substrate and form an extrusion at the bottom of the release tag by which the release tag can be raised naturally and fixed without using any colloid material and thus the protective film can be tear off easily.
A blow molding apparatus that blow-molds a preform 20 into a container 190, the preform 20 having a ring portion 22A that is provided in a neck portion 22 and protrudes outward, includes a blow core member 110, 112, 120, 122, and 130 that includes a seal portion 30A that airtightly seals the ring portion 22A of the preform 20 and is guided to move linearly, and a drive mechanism that moves the blow core member to a first position that is a withdrawn position, a second position that is a seal position, and a third position that is a standby position between the first position and the second position. The drive mechanism includes a rod member 140, one end of the rod member 140 being rotatably connected to a fixed end 100 A and the other end of the rod member being rotatably connected to the blow core member 130. A length of the rod member 140 can be adjusted in three stages corresponding to the first to third positions.
A blow molding apparatus includes first and second blow cavity mold securing plates, first and second blow cavity molds being respectively secured on the first and second blow cavity mold securing plates, a bottom mold securing plate, a bottom mold being secured on the bottom mold securing plate, a motor that produces a driving force that clamps the first and second blow cavity mold securing plates and the bottom mold securing plate, a clamping mechanism that converts the driving force produced by the motor into a force that synchronously moves the first and second blow cavity securing plates and the bottom mold securing plate, pressure-receiving members that are provided to the first and second blow cavity mold securing plates and the bottom mold securing plate, the pressure-receiving members engaging with the bottom mold securing plate when clamping the first and second blow cavity molds and receiving a blow pressure applied to the bottom mold, and a biasing member that is provided in the clamping mechanism and biases the bottom mold securing plate toward a clamping position.
A latch assembly for a vehicle seat is provided. The latch assembly for the vehicle seat which includes a base plate, a latch which is rotatably coupled to the base plate to rotate between a locking position and an open position, and a pawl and a pawl plate which are coaxial with the base plate and coupled to be overlapped each other to interact with each other to rotate, includes: the latch including a locking surface; the pawl plate including a pressing surface which presses the locking surface when the latch is positioned at the locking position, and a first supporting surface which supports the locking surface when the latch rotates by means of an impact; and the pawl including a second supporting surface which supports the locking surface together with the pawl plate when the latch rotates by means of the impact. Thus, the present invention provides a latch assembly for a vehicle seat having an improved configuration which enables a convenient handling and is capable of smoothly operating although there is a coupling condition error, and stably maintaining a coupling state in spite of an external impact against a chassis.
The invention relates to a method for producing a chemical conversion pulp from a cellulose starting material by kraft pulping, comprising the step of cooking the starting material with a cooking liquor. The method according to the invention is characterized by exposing the starting material to a steam treatment prior to cooking and by subjecting the pulp obtained by cooking to cold caustic extraction (CCE) during its further processing.
The invention relates to a method for the automatic harvesting of green sugar cane by means of a harvesting machine (10a, 10b), the leaves (20) of the sugar cane plant being mechanically cut off from the stalk (15) of the sugar cane plant, and the stalk (15) being cut off from the rootstock only after the leaves (20) are cut off.

The Patent Office Journal 05/06/2009 26490
The present invention provides LHRH analogues and LHRH antagonists for use in the treatment or prophylaxis of hormone-dependent cancers, in particular prostate cancer, prostate carcinoma and/or advanced prostate carcinoma, wherein the treatment comprises the steps a) administering an initial dose of an LHRH analogue over a first period, the dose being sufficient to effect hormonal castration, b) then, administering a maintenance dose of an LHRH antagonist over a second period, the dose being insufficient to achieve and/or maintain hormonal castration, c) optionally, repeating steps a) and b). The present invention further provides pharmaceutical kits that comprise one or more initial doses of an LHRH analogue in one or more containers, each in an amount sufficient to effect hormonal castration, and one or more maintenance doses of an LHRH antagonist in one or more containers, each in an amount insufficient to achieve and/or maintain hormonal castration.
The invention is a damper and a method for protecting buildings and similar structural systems from dynamic loading such as loading caused by earthquakes, strong winds or machine vibrations. More specifically, the damper is made from structural members being interconnected in frictional or visco-elastically dampened rotational joints. Due to the dampening of the joints, relative movement between the structural elements is dampened. In particular, the damper is useful for base isolation, e.g. in order to allow a building or a machine to move in a dampened movement relative to its foundation or in order to allow a cable stay of a cable stay bridge to move in a dampened movement relative its fixation point on the bridge.
A transmission is provided having an input member, an output member, three planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches and brakes.
Medical devices, and in particular implantable medical devices, may be coated to minimize or substantially eliminate a biological organism's reaction to the introduction of the medical device to the organism. The medical devices may be coated with any number of biocompatible materials. Therapeutic drugs, agents or compounds may be mixed with the biocompatible materials and affixed to at least a portion of the medical device. These therapeutic agents or compounds may also further reduce a biological organism's reaction to the introduction of the medical device to the organism. In addition, these therapeutic drugs, agents and/or compounds may be utilized to promote healing, including the prevention of thrombosis. The drugs, agents, and/or compounds may also be utilized to treat specific disorders, including vulnerable plaque. Therapeutic agents may also be delivered to the region of a disease site. In regional delivery, liquid formulations may be desirable to increase the efficacy and deliverability of the particular drug. Also, the devices may be modified to promote endothelialization. Various materials and coating methodologies may be utilized to maintain the agents or compounds on the medical device until delivered and positioned. In addition, the devices utilized to deliver the implantable medical devices may be modified to reduce the potential for damaging the implantable medical device during deployment. Medical devices include stents, grafts, anastomotic devices, perivascular wraps, sutures and staples. In addition, various polymer combinations may be utilized to control the elution rates of the therapeutic drugs, agents and/or compounds from the implantable medical devices.
Title of the invention: DRIVE THROUGH AIR COMPRESSOR WITH CONE CLUTCH

Abstract:
A drive through crankshaft assembly which selectively provides rotational power to a vehicle accessory while continuously providing rotational power to a second vehicle accessory. Rotational power is selectively provided using a cone clutch assembly that is modular. The cone clutch assembly provides power to the first vehicle accessory when it is in an engaged state. The first vehicle accessory is turned off by putting the cone clutch assembly into a disengaged state using a clutch control system.

No. of Pages: 34 No. of Claims: 43
A contact device for providing an electrical contact between a first busbar (3) and a second busbar (4) which are arranged substantially parallel to each other, comprises a holder (2) with two sidewalls (21, 22) which extend substantially parallel. Said sidewalls (21, 22) enclose a slot (23) for receiving the second busbar. The sidewalls (21, 22) comprise an inner surface (211, 221) facing the slot (23) and an outer surface (212, 222). One sidewall (21, 22) is adapted to face the first busbar (3) with its outer surface (212, 222) and to face the second busbar (4) with its inner surface (200,221). Said sidewall (21) comprises a contact element (1) for providing an electrical contact through said sidewall (21) from the inner surface (211) to the outer surface (212).
(54) Title of the invention : ACCESSORY DRIVE TENSIONER SYSTEM

(51) International classification : F16H7/08; F02B67/06

(31) Priority Document No : 60/921798

(32) Priority Date : 04/04/2007

(33) Name of priority country : U.S.A.

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(57) Abstract :
An accessory drive tensioner system may include a bracket, a coupling mechanism, and a biasing member. The bracket may have an aperture therethrough and a tensioner hub coupled thereto. The coupling mechanism may extend through the aperture to rotatably couple the bracket to a mounting member that is fixed relative to an engine. The biasing member may be engaged with the coupling mechanism and the bracket to bias the bracket axially along the coupling mechanism.

No. of Pages : 19 No. of Claims : 20
A rigid filter (5b) for capsules suitable for extracting beverages, comprising a flat body (51) having a plurality of through filtering holes (53), which are sized so as to block the passage of solid particles and allow passage of brewed water or beverage, characterized in that the holes (53) have a substantially symmetrical shape with respect to the middle plane (F) of the flat body (51), so that the filter (5b) can be inserted into a capsule without taking care of the orientation of such holes (53) with respect to the powdered substance within the capsule.
(54) Title of the invention: AXIAL ROVING DISTRIBUTOR FOR A MACHINE SUITABLE TO PRODUCE TUBULAR ELEMENTS MADE OF COMPOSITE MATERIAL

(51) International classification: B29C70/38; B29L23/00

(31) Priority Document No: 07425201.6
(32) Priority Date: 05/04/2007
(33) Name of priority country: EPO

(86) International Application No
Filing Date: NA

(87) International Publication No: NA

(61) Patent of Addition to Application Number
Filing Date: NA

(62) Divisional to Application Number
Filing Date: NA

(57) Abstract:
An axial roving distributor (1) for a machine (2) suitable to produce tubular elements (3) made of composite material of the type comprising a structure for supporting and moving the tubular body (3) being formed, a unit (4) for supplying structural roving (5) which is arranged, monolithically with respect to the frame (6) of the machine (2), substantially transversely to the tubular body (3), the rotation of which wraps roving fibers (5) which arrive from the unit (4) onto the body (3). The distributor (1) comprises at least one secondary magazine (7) for collecting the roving (8) wound on spools (9), which is arranged on a respective carriage (10) which can perform an axial translational motion with respect to the tubular body (3) on a respective track (11) which is rigidly coupled to a support (12) which is associated with the frame (6) of the machine (2). The carriage (10) performs a reciprocating longitudinal translational motion from a first configuration for protrusion in front of the structural roving (5) deposited on the tubular body (3) by the unit (4) to a second configuration of similar rearward protrusion.

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No. of Pages: 17 No. of Claims: 9
A transmission is provided having an input member, an output member, four planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches and brakes.
The invention relates to a device for winding fiber stripes to at least a shaping bracket, rotating around a longitudinal axis when winding the fiber stripes. An operating device rotating around the shaping bracket is arranged on the shaping bracket. The operating device rotates to a winding position when a winding process starts, the operating device is used to wind the end heads of the transmitted fiber stripes. The operating device rotates to a cutting position when the winding process is completed, and the fiber stripes are cut by the cutting device.
A transmission is provided having an input member, an output member, four planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches and brakes.
A system is operable to detect the orientation of an implant component. The system comprises an implantable component, an external component, and a logic component. The implantable component comprises a first coil operable to transmit a first signal having a phase. The external component comprises a second coil operable to transmit a second signal having a phase. The logic component is operable to compare the phase of the first signal with the phase of the second signal. The logic component is further configured to determine an orientation of the first coil relative to the second coil based on a comparison of the phase of the first signal with the phase of the second signal. The system may be used to determine the orientation of an injection port in an implanted gastric band system. The system may alternatively be used in a variety of other types of systems.
A range selection control system for a transmission facilitates safe operation of a power take off. A fluid actuated range piston assembly within a range cylinder moves between low range and high range positions. Range cylinder and range piston assembly define sealed high range and low range chambers. A neutral cylinder intersects range cylinder. A fluid actuated neutral piston assembly within neutral cylinder defines a neutral chamber. Neutral piston assembly engages range control piston assembly responsive to pressurization of neutral chamber. Neutral piston assembly is received by an engagement feature of range piston assembly when range control piston assembly is in a neutral position, retaining range piston assembly there. An electrically responsive locking mechanism locks neutral piston assembly in place when range piston assembly is in the neutral position. The locking is controlled by a condition of an electrical switch indicating a transmission condition.
Title of the invention: MULTI-SPEED TRANSMISSION

Abstract:
A transmission is provided having an input member, an output member, four planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches.
Title of the invention: MANUAL CLUTCH ASSEMBLY AND SERVICE TOOL

(51) International classification : B25B27/14; B25B27/14

(31) Priority Document No : 11/745040

(32) Priority Date : 07/05/2007

(33) Name of priority country : U.S.A.

(86) International Application No : NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number : NA

(62) Divisional to Application Number : NA

Abstract:
An assembly tool for installing a clutch pressure plate and clutch housing of a manual clutch on the flywheel of an engine includes a bell shaped housing which receives and pivotally supports a plurality of fingers having outwardly directed claws. A coaxial cylindrical portion of the bell shaped housing includes male threads which receive a complementarily threaded collar which may be rotated to engage, radially extend and retract the fingers. Internal threads in the cylindrical portion of the housing receive a complementarily threaded portion of a push rod. The push rod includes a thrust bearing at an end that engages the fingers of the pressure plate and may be rotated to engage, retract and extend the pressure plate. A method of clutch housing installation utilizing the tool is also disclosed.

No. of Pages : 17
No. of Claims : 18
Title of the invention: MICRO-OPENER

Abstract:
Machine for opening fibre bales by means of a conveyor floor, opening rollers and a suction device.

No. of Pages: 6 No. of Claims: 4
A position indicator (20) mountable on a valve housing (12) that forms a chamber that holds a piston assembly (24) that can slide to different positions spaced along an axis (32) that extends in front and rear directions (F, R), to indicate the position of the piston assembly along the axis. The position indicator includes a frame (60) that forms a cavity (62), a plunger (50) that is slidably mounted on the frame, and a spring (70) that urges the plunger forward along the axis. A plurality of switches (81-83) are mounted in the cavity, and a switch operator in the form of a slider (72) coupled to the plunger rear end to move with it, operates different switches as the plunger moves forward and rearward along the axis. The valve housing has a rear end (22) that can be opened and the indicator frame is mounted on the housing rear end, with a plunger front end (56) projecting forward of the frame and into the housing chamber (34) and abutting a rear end of the piston assembly in the housing.
The panel is characterized in that the sides (1-4) of the framework are constituted by steel strips in an arrangement perpendicular to the surface to be shuttered and the cross members (5) are constituted by tubular members joined to the strips by welding, the coupling of the wooden board being effected by insertion between the edges of the strips constituting the framework and being protected by these edges.
The present invention relates to compositions having organosilicon compounds for generating foams, where the organosilicon compounds have sulphonate groups and Si-O-C linkages, and also to the use of these compositions for producing aqueous foams, in particular fire-extinguishing foams and cleaning foams.

No. of Pages : 41 No. of Claims : 10
The invention relates to a screw terminal (10) for an electrical service device (60) for connecting an electrical connecting conductor (58), which can be inserted through an insertion opening in the housing wall of the service switching device into the screw terminal. The screw terminal comprises a terminal frame (14) with a first transverse limb (24), which has a threaded hole (28) for accommodating a clamping screw (64), and a clamping screw (64), which protrudes through the threaded hole (28) into the terminal frame (14). The clamping frame (14), in its installed position in the housing of the service switching device, is guided displaceably parallel to the mid-axis of the clamping screw (64). The connecting conductor (58) can be fixedly clamped in the terminal frame (14). That part of the terminal frame with which touching contact can be made in the installed position through the insertion opening from outside the device housing is covered by an insulating material. The invention furthermore relates to a service device with at least one screw terminal according to the invention.
The transmission has a plurality of members that can be utilized in powertrains to provide eight forward speed ratios and one reverse speed ratio. The transmission includes three planetary gear sets having six torque-transmitting mechanisms and two fixed interconnections. The powertrain includes an engine and torque converter that is continuously connected to one of the planetary gear members and an output member that is continuously connected with another one of the planetary gear members. The six torque-transmitting mechanisms provide interconnections between various gear members, the transmission housing and with the input member, and are operated in combinations of three to establish eight forward speed ratios and one reverse speed ratio.
Apparatus for transmitting movement to a driven part (510;510,1) idle on a bearing (2d), comprising a shaft (2) on which the driven part (510;510,1) is mounted; movement generating means (11) connected to the shaft (2), an electromagnetic clutch (400) which comprises a rotor (410) axially fixed to and rotationally integral with the shaft (2), a fixed electromagnet (422), and an armature (432) situated axially opposite the electromagnet (422) on the opposite side to the rotor (410), in which said armature (432) has a set of radial inner teeth (432a) able to engage with a corresponding set of teeth (4a) of a bush (4) integral with the shaft (2) together with which it rotates, between the armature (432) and the rotor (410) there being axially arranged resilient means (433) able to keep the armature (432) pushed towards the driven part (510;510,1) and therefore engaged with the teeth (4a) of the bush (4), the armature (432) carries a member (515) able to engage with the driven part (510;510,1), energization/de-energization of the electromagnet (422) causing an idle/rotating condition of the driven part (510;510,1).
The present invention relates to novel transition metal complexes of the formula (I) to a process for preparing these transition metal complexes and to the use of the transition metal complexes as catalysts in metathesis reactions.

No. of Pages : 23 No. of Claims : 7
(54) Title of the invention: FEMALE ELEMENT FOR A CONNECTOR AND CONNECTOR COMPRISING SUCH A FEMALE ELEMENT

(51) International classification : F16L37/42; F16L37/084
(31) Priority Document No : 07 02594
(32) Priority Date : 10/04/2007
(33) Name of priority country : France
(86) International Application No : NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number : NA
(62) Divisional to Application Number : NA

(57) Abstract:
Female element (103) for a connector (101), having an axial (X-X’) channel (130) intended to accommodate an end piece (102), the female element having an annular element (139) and at least one locking ball (150A-150C) for locking the end piece (102) that can move axially (X-X’) relative to the annular element (139) and radially between an unlocked position (Figure 3) and a locked position in which it is capable of axially blocking (X-X’) the end piece (102). This female element (103) further includes: - at least one device forming an obstacle to the axial displacement (X-X’) of the annular element (139) relative to the ball (150A-150C) in the unlocked position, said device being radially retractable; - at least one resilient element (152) for returning the device (152) to the unlocked position; and - at least one detection member (151A-151D) for detecting the end piece (102), that is capable, in the unlocked position, of being moved away radially by the end piece (102) so as to retract said device (152). In addition, this device and this resilient element consist of a stop clip (152) in the form of a resilient ring consisting of a wire of circular cross section.

No. of Pages : 26 No. of Claims : 12
The Patent Office Journal 05/06/2009

(12) PATENT APPLICATION PUBLICATION
(21) Application No.689/KOL/2008 A
(19) INDIA
(22) Date of filing of Application :08/04/2008
(43) Publication Date : 05/06/2009

| (54) Title of the invention : ORALLY-DISINTEGRATING TABLET AND MANUFACTURING METHOD THEREOF |
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  | Address of Applicant : 9-3, HONJO-NISHI 3-CHOME, KITA-KU OSAKA-SHI, OSAKA Japan |
  | (32) Priority Date :11/04/2007 |
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| (37) International Application No |
| (38) International Application No | (72) Name of Inventor :
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| (39) International Application No Filing Date | (71) Name of Applicant :
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| (40) International Application No Filing Date | (51) International classification :
  : NA |
| (41) International Application No Filing Date | A61K9/20; A61K47/10 |
| (42) Divisional to Application Number | (31) Priority Document No :
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| (43) Divisional to Application Number Filing Date | 2007-103925 |
| (44) Divisional to Application Number Filing Date | (32) Priority Date :11/04/2007 |
| (45) Patent of Addition to Application Number | (33) Name of priority country : Japan |
| (46) Patent of Addition to Application Number Filing Date | (36) Name of Applicant : 1) NIPRO CORPORATION |
| (47) Divisional to Application Number Filing Date | (51) International classification :
  : NA |
| No. of Pages : 15 No. of Claims : 11 |

(57) Abstract :
An orally-disintegrating tablet comprises a principal agent, a sugar alcohol powder and a sugar alcohol granule, wherein the orally-disintegrating tablet has a hardness of 30 N or greater. According to the present invention, a smooth swallowing orally-disintegrating tablet, for which both the mechanical strength and the disintegration properties in the buccal cavity are favorable with using a normal tableting machine and without using special devices and the feeling on the tongue and taste are favorable, is provided.
A basis particle comprises a basic or acidic basis particle coated by a water-insoluble coating film, wherein the water-insoluble coating film contains a substance that is acidic with respect to the basic basis or basic with respect to the acidic basis. According to the basis particles (i.e., a main ingredient or an active drug) of the present invention, it is possible to temporarily adjust pH occurring in the immediate proximity of the basis particles by using a coating film, elution of the basis particles is suppressed and superior elution is exhibited without dependence on bodily pH. It is also possible to mask tastes such as the bitterness of the basis and it is possible to ingest drugs without sensing any bitterness.
The invention concerns a method of operating a wind turbine (1), wherein for a reduction of a wind load impacting on the wind turbine (1) the rotational speed of the rotor (4, 5) and/or the electrical power output of the wind turbine (1) are reduced depending on a deviation of the wind speed from the average wind speed. The rotational speed of the rotor (4, 5) and/or the electrical power output of the wind turbine (1) are in particular reduced as a function of the deviation of the wind speed from the average wind speed, when the deviation of the wind speed from the average wind speed attains or exceeds a threshold value. Moreover the invention concerns a wind turbine (1) comprising a calculating unit (6) adjusted for executing the method.
The present invention relates to a control for truck mixers having a hydraulically driven mixer drum, with the hydraulic pump of the mixer drive being driven by the drive motor of the truck mixer or by a separate motor. In accordance with the invention, the speed of the drive motor is adjustable in dependence on the demanded drum speed, with the desired drum speed being able to be set via an operating lever.

Fig. 1

No. of Pages : 13 No. of Claims : 10
A multi-speed transmission includes multiple planetary gear sets having members representable by a three-node lever and a five-node lever, with each node representing at least one of the members of the planetary gear sets. The transmission includes seven torque-transmitting mechanisms including three rotating clutches selectively connecting nodes of the three-node lever to nodes of the five-node lever, one rotating clutch selectively connecting the input member with a node of the five-node lever and three brakes grounding selective nodes of the five-node lever to a stationary member. The torque-transmitting mechanisms are engagable in different combinations to provide at least eight forward speed ratios and a reverse speed ratio between an input member and an output member, and there are preferably five alternate forward speed ratios such that there are five different combinations of nine forward speed ratios operable in progression with single-transition shifts between each forward speed ratio.
A transmission is provided having an input member, an output member, four planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches.
An improved seal assembly is provided that minimizes loss of transmission pump pressure by controlling fluid flow past a torque converter hub bushing to meet bushing lubrication requirements without unnecessarily diminishing pump pressure and while also minimizing frictional losses. The seal assembly includes a rigid carrier adapted to fit between a pump body member and the torque converter hub. An elastomeric lip extends from the rigid carrier. A contact layer is connected to the elastomeric lip and configured to sealingly contact the torque converter hub. The contact layer is integral with and harder than the elastomeric lip, therefore minimizing frictional losses.
A shift fork actuation system includes an actuator housing defining a piston cavity and a piston assembly having three pistons with three different surface areas responsive to fluid pressure to establish positions of the piston assembly within the piston cavity. A stopping mechanism, such as a shoulder formed by the actuator housing at the interface of different bores in the piston cavity, interferes with one of the surface areas to prevent movement of one of the pistons past the stopping mechanism. A neutral position of a shift fork is established by interference of the piston assembly with the stopping mechanism. A slot in the piston assembly captures a finger extension from the shift rail to act as an anti-rotation feature, ensuring that a magnet embedded in the piston assembly as part of a sensor assembly is properly positioned.
The transmission has a plurality of members that can be utilized in powertrains to provide eight forward speed ratios and one reverse speed ratio. The transmission includes three planetary gear sets having six torque-transmitting mechanisms, two fixed interconnections and a grounded member. The powertrain includes an engine and torque converter that is selectively connected to at least one of the planetary gear members and an output member that is continuously connected with another one of the planetary gear members. The six torque-transmitting mechanisms provide interconnections between various gear members, the transmission housing and with the input member, and are operated in combinations of three to establish eight forward speed ratios and one reverse speed ratio.
A combination countershaft and planetary gear set transmission is provided that achieves at least nine forward speed ratios and two reverse speed ratios. The transmission includes a main shaft operatively driven by a transmission input member as well as first and second countershafts with each countershaft spaced apart from and substantially parallel to the main shaft. The countershafts utilize a split clutch arrangement in which one of the clutches is cantilevered off the countershaft, allowing the size of the countershaft as well as an intermediate support plate to be removed, reducing parts complexity, material and overall length of the transmission.
The invention concerns a wind turbine comprising a vertical tower with a yaw bearing, a nacelle on top of the yaw bearing, a hub with blades rotatable around a more or less horizontal rotation axis. The nacelle has a generator and a control room, whereby the generator comprises a rotor with a rotor shaft supported on two rotor bearings carrying the hub, and a stator comprising a cylindrical outer shell with a stator diameter that is approximately equal to the diameter of the nacelle and which outer shell has at its ends a front cover plate and a back cover plate each with a rotor bearing for supporting the rotor shaft. In accordance with the invention the rotor shaft is hollow and the hollow hub is accessible from the control room through the hollow rotor shaft.

No. of Pages : 12 No. of Claims : 11
Title of the invention: WEFT FEEDER FOR TEXTILE MACHINES WITH A WEFT-BRAKING DEVICE

Abstract:
The yarn (F) is unwound from a yarn-storing drum (12) and is fed to a textile machine. A weft-braking device (18) is integral with a slide (22) movable along a direction parallel to the axis of the drum (12), and is provided with a hollow braking member (32) having a circular profile, which is coaxially biased, with its inner surface, against the delivery edge of the drum (12) by actuator means (20, 21) to brake the unwinding yarn. A yarn tension sensor (38) generates a measured tension signal (Tm) indicative of the tension of the yarn delivered from the drum. A control unit (CU) is programmed to compare the measured tension signal (Tm) with a reference tension signal (Tr) and to drive the actuator means (20, 21) in such a way as to minimize the difference between the measured tension and the reference tension. The control unit (CU) is programmed to generate a poor braking signal (Sib, Sib') when the reference tension (Tr) is higher than the maximum tension available with said actuator means at a stroke-end position, and an excessive braking signal (Seb, Seb') when the reference tension (Tr) is lower than the minimum tension available with said actuator means at a stroke-end position. Means for correcting the position (VD, M) of said slide (22, 23) are enabled by the poor braking signal (Sib, Sib') and the excessive braking signal (Seb, Seb').
Filter apparatus for the filtration of liquids, with a filter cloth (32) which is moved in the filter region (30) along a circular path by means of at least one driven transport belt (24) guided via deflecting rollers (28, 29), with the result that a channel-shaped filter region (30) is formed, which is delimited by lateral discs (19, 21) or by lateral walls with rings mounted rotatably thereon, and with a supply line (16) which is provided by a central orifice of a disc (19, 21) or of a lateral wall and which leads to the introduction of the liquid to be purified into the filter region (30), in or above the channel-shaped filter region (30) a filter device (42) being provided which forms a first filtration stage (41) which precedes the further filtration stage (38) formed by the channel-shaped filter region (30).
The brake cylinder device of the present invention is provided with a normal brake means, a spring brake means, a push rod, and a projected length adjusting means having a guide member, which is movable together with the push rod and attached to the push rod in such a manner that a predetermined resisting force is applied at movement of the push rod, thereby adjusting a projected length from a cylinder main body of the push rod. The projected length adjusting means is additionally provided with a recess installed on a guide member and a regulating means having an engaging portion to be engaged with the recess and placed between the second piston and the first spring to regulate a movable range in a direction in which the first piston of the guide member moves.
An object of the present invention is to provide a wiring substrate capable of accurately detecting a potential difference in a shunt resistor and a current to be detected without being influenced by soldering, and a current detection device. A land mounted with a rectangular surface at each end of a shunt resistor is configured by first and second lands each having a rectangular portion and being arranged at a predetermined interval with a central line as a center, and third and fourth lands each having an area smaller than those of the first and second lands and being arranged at one end of the first and second lands to be connected respectively to the first and second lands. A wiring pattern for detecting a potential difference between the both ends of the shunt resistor is configured by a first wiring pattern connected to the third land and pulled out from the third land towards the fourth land, a second wiring pattern connected to the fourth land and pulled out from the fourth land towards the third land, and third and fourth wiring patterns connected respectively to the first and second wiring patterns and pulled out into one direction.
The present invention relates to a 7-16 flanged receptacle comprising a tubular body including an outside thread and a fastener flange perpendicular to the longitudinal axis of the body, and a central contact mounted in said body with an insulator being interposed, the receptacle including a tubular metal part forming an outer contact mounted as a tight fit in the inside wall of said body with limited ability to move longitudinally relative thereto.

No. of Pages : 9 No. of Claims : 5
(54) Title of the invention : SUTURING APPARATUS AND METHOD

(51) International classification : A61B17/062; A61B17/04
(31) Priority Document No : 11/738,129
(32) Priority Date : 20/04/2007
(33) Name of priority country : U.S.A.
(86) International Application No : NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number : NA
(62) Divisional to Application Number : NA

(57) Abstract :
A suturing apparatus comprises a pair of jaws. A bendable needle housed in one of the jaws is adapted to carry a suture. An optional suture receiver may be disposed adjacent to the opposite jaw. A transition block curves the needle and directs it in a direction generally unparallel to an axis of the carrying jaw. The needle may also be configured to retrieve a suture. A retaining mechanism holds a suture in place to be engaged by the needle. The jaw housing the needle may include a lateral opening through which the suture may be inserted. The needle may also include a lateral notch which may be aligned with lateral opening to receive the suture. An actuator coupled to the needle enables the user to move the needle proximally to align the notch with the lateral slot.

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No. of Pages : 97 No. of Claims : 44
Title of the invention: A COATING FOR A MEDICAL DEVICE HAVING AN ANTI-THROMBOTIC CONJUGATE

Abstract:
Methods for making comb-type antithrombotic conjugate wherein substantially all side chains of water soluble poly(vinyl alcohol) (PVA) are extended by ring-opening polymerization to form a copolymer wherein substantially all terminals are conjugated to an antithrombotic molecule. In addition, a method is provided for applying a coating comprising a comb-type antithrombotic conjugate to at least a portion of an implantable device to prevent or reduce the formation of thrombosis on the surface of the device. A first or sub-layer of the coating is prepared by mixing a polymeric material and a biologically active agent with a solvent, thereby forming a homogeneous solution. A second or outer layer comprising a comb-type antithrombotic conjugate may be applied over the inner drug-containing layers using, for example, a dip coating or spray coating process. Alternatively the comb-type antithrombotic conjugate may be used as a matrix material to encapsulate a pharmaceutical agent to form microspheres or nanospheres before depositing the microspheres or nanospheres onto a medical device.
The present invention relates to a building material mixer having a mixer drum which can be rotationally driven by a mixer drive, with the mixer drum being rotatably supported by the mixer drive at a mixer frame part, in particular a traveling gear frame part, at one of its end face ends and with the mixer drive having a drive part, in particular a hydraulic motor, and a drive transmission connected to the mixer drum. In accordance with the invention, the building material mixer is characterized in that the mixer drive is movably supported by movable bearing means at the mixer frame part allowing tilting movements; and in that the mixer drum is fastened to the transmission housing of the drive transmission.
A saw-tooth wire for the production of a saw-tooth all-steel clothing for a flat card or roller card made of alloyed steel contains carbon, silicon, manganese or chromium. To provide a saw-tooth wire which, in particular, allows economical production, high resistance to wear and a smooth surface, the alloyed steel comprises from 0.93 to 1.10 % by weight carbon, from 0.15 to 0.35 % by weight silicon, from 0.20 to 0.45 % by weight manganese and from 1.35 to 1.60 % by weight chromium.
A winding assembly for a rolling mill for sheet metal, comprising: - a winding spool (24), which turns about a first axis (26), wound on which is a coil (22) formed by a continuous sheet of metal (F); - an ironing roll (30), which turns about a second axis (32) parallel to the first axis (26); - an oscillating support (34), carrying said ironing roll (30) and associated to actuator means (44), which are designed to push the ironing roll (30) against the coil (22) being formed; - a pass-line roll (48), which turns about a third axis (50) parallel to the first and second axes (26, 32); and - at least one deflector roll (52), which turns about a fourth axis (54) parallel to said first, second, and third axes (26, 32, 50) and is set between the pass-line roll (48) and the ironing roll (30). The axis of rotation (54) of said at least one deflector roll (52) is mobile parallel to itself, and a control unit (74) is provided, which, in operation, adjusts continuously the position of the axis of rotation (54) of the deflector roll (52) as a function of the diameter of the coil (22).
A two step rocker assembly is provided having a lever body, a first roller assembly mounted to the lever body, and a center shaft extending through the first roller assembly. A second shaft extends through the lever body and defines a first pivot point. A coupling lever is pivotally connected to the second shaft and has an opening for receiving the center shaft. The coupling lever is rotatable about the first pivot point. A latch pin is mounted to the lever body. A second roller assembly is mounted on the center shaft. A spring lever is pivotally connected to the second shaft and is connected to the center shaft. The spring lever is rotatable about the first pivot point. A spring member is mounted on the lever body and engages the spring lever to bias the spring lever and the center shaft into the first position.
An engine is provided having an engine block, a cylinder head mounted to the engine block, a valve train mounted to the cylinder head, and a cam cover extending over the valve train and mounted to the cylinder head. A hydraulic system for providing a hydraulic fluid to the valve train is included. The hydraulic system has a first passage extending from the engine block through the cylinder head to the cam cover and connected to a second passage. The second passage extends along a length of the cam cover and is connected to an oil control valve. At least one control passage extends from the oil control valve through the cam cover to the valve train. The oil control valve is mounted to a port in the cam cover and extends into the cam cover in a direction along a width of the cam cover.
Title of the invention: ARRANGEMENT FOR RECOGNISING UNDESIRABLE PARTICLES, ESPECIALLY TRASH PARTICLES, NEPS, HUSK NEPS, BURLS AND THE LIKE, IN TEXTILE FIBRE MATERIAL, FOR EXAMPLE COTTON, SYNTHETIC FIBRES OR THE LIKE ESPECIALLY ON SPINNING PREPARATION MACHINES

Abstract:
In a device for recognising undesirable particles, especially trash particles, neps, husk neps, burls and the like, in textile fibre material, for example cotton, synthetic fibres and the like, especially on spinning preparation machines, in which the detection of the undesirable particles is effected by optoelectronic means, the fibre material can be detected by a recognition device and the measurement results can be supplied to an image-processing device. In order substantially to improve evaluation of the measurement of the undesirable particles, there is a combing-out element for at least one fibre sliver, with which a fibre tuft having open ends in the working direction and a fibre tuft having open ends opposite to the working direction can be produced and the measured values of the undesirable particles obtained at both fibre tufts can be supplied to a comparison device and the comparison values can be used for optimising setting parameters and/or structural elements of the spinning preparation machines.
A method and apparatus effectively bypasses flue gas through or around selected boiler convection heat transfer tube banks within a new or existing boiler flue. Heat transfer tubes are removed, or omitted in the design of a new boiler flue, forming one or more voids at one or more locations within the tube banks. A bypass flue or conduit is formed within each void, for example using steel plates, along with existing flue walls, or using an integral sleeve. A wall of the bypass flue may include water or steam-cooled tubes. Dampers may be installed at either end of or within the bypass flue to control the amount of flue gas directed through each bypass flue.
A method and apparatus is provided for conferencing a plurality of users of a communication system. The method includes the steps of detecting a plurality of electronic messages directed to a common subject matter among the plurality of users, comparing a frequency of the detected messages among the plurality of users during a time period with a threshold value and setting up an electronic conference among the plurality of users when the frequency of messages exceeds the threshold value.

No. of Pages : 17 No. of Claims : 33
The present invention relates to a device comprising: more than three images showing at least two different appearances of keratinous materials, each of the images including an identifier; and an optical system that is configured to make the different images appear in succession as a result of a change in the angle of observation of the device.
A device for conveying people or objects, for example a car (7) of an aerial cableway, has a driveless running gear (2), which is pulled along a track cable (4). The car (7) has consumers (15) for electrical energy and an electrical energy store (14). Electrical energy is obtained by friction wheels (11) on the running gear (2), which friction wheels are connected to a generator, said electrical energy being stored in the electrical energy store (14).
Title of the invention: EIGHT SPEED TRANSMISSION

An eight speed automatic transmission is provided having an input member, an output member, three planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices include three clutches and three brakes.
The transmission has a plurality of members that can be utilized in powertrains to provide ten forward speed ratios and one reverse speed ratio. The transmission includes four planetary gear sets having six torque-transmitting mechanisms and four fixed interconnections. The powertrain includes an engine and torque converter that is continuously connected to at least one of the planetary gear members and an output member that is continuously connected with another one of the planetary gear members. The six torque-transmitting mechanisms provide interconnections between various gear members, and the transmission housing, and are operated in combinations of three to establish at least ten forward speed ratios and at least one reverse speed ratio.
The transmission has a plurality of members that can be utilized in powertrains to provide eight forward speed ratios and one reverse speed ratio. The transmission includes three planetary gear sets having six torque-transmitting mechanisms and two fixed interconnections. The powertrain includes an engine and torque converter that is continuously connected to one of the planetary gear members and an output member that is continuously connected with another one of the planetary gear members. The six torque-transmitting mechanisms provide interconnections between various gear members, the transmission housing and with the input member, and are operated in combinations of three to establish eight forward speed ratios and one reverse speed ratio.

No. of Pages : 17 No. of Claims : 5
The transmission has a plurality of members that can be utilized in powertrains to provide eight forward speed ratios and one reverse speed ratio. The transmission includes four planetary gear sets having five torque-transmitting mechanisms, two fixed interconnections and one grounded member. The powertrain includes an engine and torque converter that is continuously connected to at least one of the planetary gear members and an output member that is continuously connected with another one of the planetary gear members. The five torque-transmitting mechanisms provide interconnections between various gear members, and the transmission housing, and are operated in combinations of two to establish at least eight forward speed ratios and at least one reverse speed ratio.
Title of the invention: 8-SPEED TRANSMISSION

Abstract:
The transmission has a plurality of members that can be utilized in powertrains to provide eight forward speed ratios and one reverse speed ratio. The transmission includes four planetary gear sets having five torque-transmitting mechanisms, two fixed interconnections and three grounded members. The powertrain includes an engine and torque converter that is continuously connected to at least one of the planetary gear members and an output member that is continuously connected with another one of the planetary gear members. The five torque-transmitting mechanisms provide interconnections between various gear members, and are operated in combinations of two to establish at least eight forward speed ratios and at least one reverse speed ratio.
A multi-speed transmission offers seven forward speed ratios with a pleasing ratio step progression, with the seventh forward speed ratio offering a relatively large percentage of the ratio spread, relatively low pinion speeds and only light torque loading on gear members carrying torque in the seventh forward speed ratio due to a brake-type torque transmitting mechanism engaged in the seventh forward speed ratio.

No. of Pages : 34  No. of Claims : 16
A chain link for a silent-type endless chain comprising a plate member having opposing first and second surfaces defining two apertures therethrough and two toes joined at a root. Each toe has an asymmetrical profile defined by a first flank joined to a second flank at a crest wherein the first flanks have a high-pressure involute angle and the second flanks have a low-pressure involute angle that is distinct from the high-pressure involute angle. The first flanks are oriented in a first direction and configured to engage with a plurality of asymmetrical sprocket teeth to transmit power in a first direction. The second flanks are oriented in a second direction distinct from the first and configured to engage with the plurality of asymmetrical sprocket teeth to transmit power in a second direction.
A transmission is provided having an input member, an output member, four planetary gear sets, a plurality of coupling members and a plurality of torque transmitting devices. Each of the planetary gear sets includes first, second and third members. The torque transmitting devices may include clutches.
A heavy-load tire has a wind bead structure in which a turned-up portion of a carcass ply is wound around a bead core, in which a bead portion is equipped with a bead reinforcing layer having a U-shaped cross section and a bead apex rubber having a triangular-shaped cross section. The turned-up portion has an auxiliary turned-up portion passing through the vicinity of a radially outer side of the bead core. The bead apex rubber includes a high elasticity inner apex portion disposed at a radially inner side and a low elasticity outer apex portion disposed at a radially outer side. The inner apex portion has an L-shaped cross section including a bottom piece portion along the radially outer side of the auxiliary turned-up portion, and a raised piece portion which rises at an axially inner end side of the bottom piece portion and extends radially outwardly in a tapering manner along the body portion of the carcass ply.
A method for monitoring an electrocardiogram (ECG) signal of a subject, includes digitally sampling an average signal from at least a first ECG electrode, determining an average interference frequency, and digitally sampling and buffering a raw ECG signal from at least a second ECG electrode. The method further includes: filtering the raw ECG signal to generate a residual signal; calculating, based on the residual signal, a first amplitude and a first phase shift of a primary interference signal at the average interference frequency and a second amplitude and a second phase shift of one or more harmonic interference signals at respective multiples of the average interference frequency; and digitally subtracting the primary interference signal and the one or more harmonic interference signals from the raw ECG signal so as to generate and output a clean ECG signal.
Embodiments of the present invention improve edge detection in 2-dimensional image data that may be carried out automatically with minimal user involvement. The invention is carried automatically, using an image processing technique that results in generation of a segmented edge contour, which may then be used in 3-dimensional reconstruction and segmentation.
(54) Title of the invention : METHOD FOR PRODUCING RESIN-COATED SLIDING MEMBER

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(57) Abstract :
The present invention provides a method for producing a resin-coated sliding member in which problems such as blistering do not occur even if drying of the solvent is carried out rapidly, and in which quality is also stabilized. The method includes an impregnating step for impregnating a solvent-containing resin composition by a resin impregnating apparatus 12 into a porous sintered layer sintered on a back metal 11, a drying step for drying with a drying furnace 13 the solvent in the resin composition impregnated in the porous sintered layer using an electromagnetic wave oscillator which radiates electromagnetic waves in a wavelength region which is easily absorbed in the solvent, and a baking step for baking with a baking furnace 14 the resin composition impregnated in the porous sintered layer.

No. of Pages : 18 No. of Claims : 3
The method and the device serve the purpose of handling a strip-shaped workpiece. The workpiece is separated from a strand, cut to size and subsequently fed to an outer circumference of a processing drum. Before its separation from the strand the workpiece is fed to a transfer drum and fixed on an outer circumference of the transfer drum. After its fixing in the region of the transfer drum, the workpiece is separated from the strand and then forwarded from the transfer drum to the processing drum and fixed there. Particularly, by using the transfer drum it is possible to feed a sidewall strip to a tyre shaping drum.
Title of the invention: METHOD AND SYSTEM FOR HEALTH CARE DATA TRANSFER

Abstract:
A method for transferring health care data between a consumer health care application and a plurality of health care information sources. The method includes requesting a first portion of health care data corresponding to a consumer from a first health care information source of the plurality of health care information sources, receiving the first portion of health care data from the first health care information source, storing the first portion of health care data in a health care data repository, requesting a second portion of health care data corresponding to the consumer from a second health care information source of the plurality of health care information sources, receiving the second portion of health care data from the second health care information source, storing the second portion of health care data in a health care data repository, and accessing the first portion of health care data and the second portion of health care data from the health care data repository.

No. of Pages: 106 No. of Claims: 42
The method of coating comprises contacting said lens with a coating composition comprising at least one heterocyclic amine precursor compound selected from the group consisting of monomeric heterocyclic amine precursor compounds, polymeric heterocyclic amine precursor compounds and polymerizable heterocyclic amine precursor compounds and contacting said coated lens with a halogen source to form said heterocyclic compound.
A method for controlling a transmission in a motor vehicle includes determining a temperature of a fluid in the transmission, determining whether the torque converter lockup clutch is applied, and determining an engine torque of the motor vehicle. Then, the torque converter lockup clutch is applied and the transmission is prohibited from up-shifting if the temperature of the fluid exceeds a threshold, the torque converter lockup clutch is not applied, and the engine torque exceeds a second threshold. Next, a tractive effort of the motor vehicle is determined and the torque converter lockup clutch is deactivated when the temperature of the fluid is less than a third threshold, the tractive effort is less than a fourth threshold, or the engine torque is less than the second threshold.
Title of the invention: APPARATUS FOR THE FIBRE-SORTING OR FIBRE-SELECTION OF A FIBRE BUNDLE COMPRISING TEXTILE FIBRES, ESPECIALLY FOR COMBING

Abstract:
In an apparatus for the fibre-sorting or fibre-selection of a fibre bundle comprising textile fibres, especially for combing, which is supplied by means of supply means to a fibre-sorting device, especially a combing device, in which clamping devices are provided which clamp the fibre bundle at a distance from its free end, and mechanical means are present which generate a combing action from the clamping site to the free end of the fibre bundle, for removal of the combed fibre material a revolving means (piecing element) is present, which is provided on its periphery with air-permeable openings and at least one subregion of the inner space is connected to a source of reduced pressure. To enable the amount produced per hour (productivity) to be substantially increased in a simple manner and to permit a reliable removal and piecing at high production speed, downstream of the supply means there is arranged at least one rotatably mounted roller which is provided with clamping devices for the fibre bundles transported in rotation, which clamping devices are distributed spaced apart around the periphery of the roller, and the means for generating a combing action (combing elements) are associated with the roller, wherein after take-up of the free regions of the combed fibre bundles by the revolving means, the clamping of the clamped ends of the combed fibre bundles is terminated.

No. of Pages : 45 No. of Claims : 77
A camshaft (cam) phaser control system for an engine includes a first camshaft having a first target wheel. A second camshaft has a second target wheel. A cam position sensor detects said first and second target wheels and generates camshaft position data based on said first and second target wheels.
A multi-speed transmission is provided that includes three planetary gear sets and seven torque-transmitting mechanisms with various fixed interconnections to provide seven forward speed ratios and one reverse speed ratio. The first planetary gear set is a dual sun planetary and the torque-transmitting mechanism engagement schedule is designed so that, in the reverse speed ratio, a predetermined speed ratio is achieved at the second sun gear member in the dual sun planetary and the input member, and, in the first forward speed ratio, the same magnitude predetermined speed ratio is achieved between the second sun gear member and the input member, but with the second sun gear member rotating in an opposite direction as in the reverse speed ratio.
Title of the invention: 8-SPEED TRANSMISSION

Abstract:
The transmission has a plurality of members that can be utilized in powertrains to provide eight forward speed ratios and one reverse speed ratio. The transmission includes four planetary gear sets having five torque-transmitting mechanisms, three fixed interconnections and two grounded members. The powertrain includes an engine and torque converter that is continuously connected to at least one of the planetary gear members and an output member that is continuously connected with another one of the planetary gear members. The five torque-transmitting mechanisms provide interconnections between various gear members, and are operated in combinations of two to establish at least eight forward speed ratios and at least one reverse speed ratio.
Title of the invention: LIGHT WITH HEATER

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<td>Priority Document No</td>
<td>:60/914,164</td>
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A light fixture (10) is provided having a wall housing (11) and lighting arms (12). The light fixture includes a heating source (17) mounted within the wall housing. The wall housing includes an external wall (19) adapted to be mounted to a vertical wall of a structure. The external wall has a top (19a), bottom (19b), two oppositely disposed sides (19c), and a front face (19d). The housing top has an air intake opening (20). The housing bottom has an air exhaust outlet (21) which directs air in a downwardly direction. The wall housing also includes an air channel (23) which commences at air intake opening and ends at air exhaust outlet. The heat source includes a heating element (25) mounted within the airflow channel and a motorized fan (26) to create an air flow through the channel which exits through the air exhaust outlet.
A computer generated character is decorated with skin-attached features in computer graphics by defining a skin surface of the computer generated character. The skin surface is defined using a set of one or more connected parametric surfaces. Feature locations for the features are placed on the defined skin surface. Guide locations for guides are placed on the defined skin surface. The skin surface is partitioned into a plurality of cells. Each cell has a set of vertices. The set of vertices for each cell is a set of the guide locations. Interpolation weights are determined for the feature locations using the guide locations and the plurality of cells.
Skin-attached features are placed on a computer generated character by defining a set of placement points on at least a portion of a skin surface of the computer generated character. For each placement point, a radius is defined for the placement point. For each placement point, a density value is determined for the placement point. The density value is a sum of weighted overlaps with neighboring placement points within the radius of the placement point. The weighted overlaps are functions of the radius of the placement point. The number of placement points in the set of placement points is reduced based on the density values.
The actuator for a motor vehicle has an electric motor (20) having an output shaft (22). A gear comprising a spindle nut (28) and a gear case (32) is connected to said output shaft (22). A spindle (30) engages said spindle nut (28). A bracket (36) forms an at least partial surrounding grip about said gear case (32). A pivot bearing (40) is provided between said gear case (32) and said bracket. Further, an abutment (42) lying substantially opposite said pivot bearing (40) is formed between said gear case (32) and said bracket (36).

Fig. 1

No. of Pages : 16 No. of Claims : 14
The residual current device (2; 200) asociable to an electric circuit-breaker (1), the residual current device (2;200) comprising: - interconnection electric terminals (22) suitable to establish, by co-operating with respective electric terminals of the circuit-breaker (1) that are accessible through a first face (6) of the latter, an electrical connection between the device (2;200) and the electric circuit-breaker (1); and - mechanical coupling means (15,16) suitable to allow a mechanical interaction between the device (2;200) and the circuit-breaker (1) through a second face (12) perpendicular to said first face (6). The device (2;200) comprises first (20,21;221) and second (24;220) parts, which are pivotally connected to each other and carry said interconnection electric terminals (22) and said mechanical coupling means (15,16), respectively.
A transport belt for transporting a staple fibre strand to be condensed pneumatically consists in at least one area transporting the fibre strand of a permeable woven fabric. The air-permeable woven fabric consists of metal wires. The metal wires can be made of stainless steel and have a diameter of 0.04 mm or less. The edge areas of the woven fabric can be imbedded in plastic or welded together.
A distributed system for commerce including a merchant system with a communication system for receiving, processing and transmitting data. The system further includes an intermediate server system in communication with the merchant system, and this intermediate server system includes a data storage system for storing data transmitted thereto, as well as a communication system for receiving, processing and transmitting data.
The present invention relates to a composition for obtaining artificial stone materials, which composition includes a compound selected from the group comprising benzopinacol and at least one derivative thereof. The present invention also relates to a mixture for obtaining an artificial stone material, including a resin compound and the above mentioned composition in a percentage ranging from 0.1 to 10% by weight with respect to the resin compound.
(54) Title of the invention : METAL ALLOY

(51) International classification :B22F9/00; C22B5/00

(31) Priority Document No :A

(32) Priority Date :10/05/2007

(33) Name of priority country :Austria

(36) Name of Applicant :1) GEBAUER & GRILLER METALLWERK GMBH
Address of Applicant : DAUPHINESTRASSE 137, A-4030 LINZ Austria

(37) Name of Inventor :1) KOPPENSTEINER EWALD
2) SCHRAYVOGEL RUDOLF

(57) Abstract :
A metal alloy is primarily formed of copper, nickel, magnesium and iron. The main constituents are copper and nickel. The contents of magnesium and iron are increased considerably in comparison with the prior art conventional alloys. The novel alloy has the following constituents in the following proportions (in % by mass and/or % by weight): copper (40% to 61%), nickel (35% to 45%), manganese (3.9% to 10%), iron (0.1% to 5%); and other materials, such as carbon, silicon, aluminum, magnesium, titanium, chromium, rare earths, molybdenum, and/or yttrium (at most 2% in total), with the sum of the components amounting to 100 % by mass or, respectively, to 100 % by weight.

No. of Pages : 15 No. of Claims : 8
The optical device is used for monitoring a rotatable shaft (10) with an orientated axis (13). It comprises at least one optical waveguide (20) which is arranged on the rotatable shaft (10), provided with at least one optical sensor (21) and via which the at least one optical sensor (21) can be queried by means of a light signal (LS). Further, it comprises a transmitting/receiving unit (40) which is arranged in a positionally fixed manner with respect to the rotatable shaft (10) and which can be used to transmit the light signal (LS). Additionally, the optical device has transfer means, which are used to transfer the light signal (LS) between the transmitting/receiving unit (40) which is arranged in a positionally fixed manner and the optical waveguide (20) which is arranged on the rotatable shaft (10), and has an evaluation unit (43) for determining a physical variable from a light signal (LS') coming from the at least one optical sensor (21) and transferred by the transfer means, with the evaluation unit (43) being associated with the transmitting/receiving unit (40).

Here, the transfer means has in turn at least one optical 'multimode' waveguide (30), associated with coupling means (30K), which waveguide (30) is associated with the transmitting/receiving unit (40) and arranged in a positionally fixed manner with respect to the rotatable shaft (10), and at least one further optical 'multimode' waveguide (31), with associated coupling means (31K), which waveguide (31) is associated with the at least one optical waveguide (20) and arranged on the rotatable shaft (10) eccentrically to its axis (13). Here, the optical signals (LS, LS') can be transferred via the coupling means (30K, 31K) between the optical 'multimode' waveguides (30, 31).
End support for parallel tubes of a superheater or reheater with a bend tubular portion, a linear tubular portion extending away from each end of the bend tubular portion, and a supporting member formed on a curved section of the bend tubular portion. The tubular portions form a connection between two consecutive parts of a fluid passage. In a preferred embodiment, the tubular portions and the supporting member are integrally formed, molded or cast of a suitable material, such as carbon steel, stainless steel, chromium-nickel alloy, or other suitable alloys that have high temperature strength and oxidation resistance. The supporting member is configured to securely attach the end support configuration to the wall support brackets on the wall support tube. Preferably, the supporting member and the wall support bracket slide on one another to provide relative movement between the superheater tubes and the wall support or boiler tubes.
A three phase full resonant cyclo-converter suitable for converting a three phase AC supply to a DC output. In one embodiment the cycloconverter controls switching frequency to control converter output and adjusts phase on times for power factor correction. A switching sequence is employed which provides resonant switching to reduce losses and component ratings. The converter provides high conversion efficiency with a simple power component design.
A control method for controlling load reduction for a wind turbine rotor (3) with rotor blades (5, 7, 9) comprising at least one aerodynamic active element responsive to a control signal for modifying its setting is provided. The method comprises the steps of:

- detecting the loads acting on the rotor blades (5, 7, 9) in relation to the rotor’s azimuth;
- establishing individual control signals for modifying the settings of the aerodynamic active elements of the rotor blades (5, 7, 9) wherein each individual control signal is a complex number containing an amplitude defining the degree of modification of the respective setting and an angle defining the phase of the modification of the respective setting with respect to the rotor’s azimuth, and wherein the angle of the complex number is corrected by a phase correction factor; and
- providing the aerodynamic active elements with the individual control signals.

The individual control signals are established based on a PI control system (47); the input to the PI-control system (47) is a complex load vector; the number of complex vector components of the complex load vector corresponds to the number of rotor blades (5, 7, 9); the amplitude of a vector component defines the magnitude of the load acting on the respective blade (5, 7, 9) and the angle of this vector component defines the phase of the load with respect to the rotor’s azimuth; and the load vector is multiplied with the phase correction factor before it is input to the PI-control system (47).
The invention concerns a wind power plant (1) and a method of start up at least a part of a wind power plant (1) combinable to an external grid (2) substantially without any energy delivered from the external grid (2) for the start up, the wind power plant (1) comprises several wind turbines (4) and at least one local power source (6) combinable to at least one wind turbine (4), wherein - the wind power plant (1) is disconnected from the external grid (2), - one start up wind turbine (4) or a group (GP1 - GPX) of start up wind turbines (4) of the wind turbines (4) of the wind power plant (1) is isolated from the remaining wind turbines (4), - the one start up wind turbine (4) or the group (GP1 - GPX) of start up wind turbines (4) is connected to the local power source (6) and - the one start up wind turbine (4) or the group (GP1 - GPX) of start up wind turbines (4) is started up using the power delivered from the local power source (6), and wherein the power deliverable from the wind power plant (1) is used for a black or a cold start of at least a part of the external grid (2) to establish the voltage and/or the power on the external grid (2). The invention also concerns the use of the method or the wind power plant (1) for a black or cold start of at least a part of the external grid (2) to establish the voltage and/or the power on the external grid (2).
Title of the invention: A VARIABLE FLOW RATE DEHUMIDIFICATION PLANAT AND PROCESS FOR GRANULAR MATERIALS

Abstract:
The present invention relates to a dehumidification plant for a granular material, comprising at least one hopper (2) having at least one loading mouth (3a) and one discharge mouth (3) for granular material, at least one upper feeding mouth in the at least one hopper (2) and at least one lower delivery mouth of a gaseous medium therefrom, humidity absorbent means (51, 52) designed to absorb the humidity conveyed by the gaseous medium; at least two towers (29, 36) arranged to contain the absorbent means (51, 52); supplying means designed to feed the gaseous medium to the at least one hopper (2) and the at least two towers (29, 36); at least one electronic control unit (46); detection means arranged to detect process variables of the plant and electrically connected with the at least one electronic control unit (46). The plant further comprises distribution means designed to distribute gaseous medium coming from at least one (29, 36) of the at least two towers thereby feeding it to at least another tower (36, 29) from among the at least two towers, the distribution means being controllable by the at least one electronic control unit (46) between at least one open position, in which at least one portion of the gaseous medium contained in the at least one of the at least two towers (29, 36) is fed to the at least another (36, 29) of the at least two towers, and at least one closed position.
A segment of a seal assembly for sealing a higher pressure area from a lower pressure area is disclosed. The segment comprises a radial external surface, a radial internal surface for sealing against a rotating member, a transverse groove for maintaining a pressure around portions of the segment, and one or more pads including a scooping groove. The scooping groove is positioned at or in proximity to an edge of the transverse groove and provides for a transition flow between the one or more pads and the transverse groove.
Title of the invention: RADIATOR COVER OF STRADDLE-TYPE VEHICLE AND STRADDLE-TYPE VEHICLE PROVIDED WITH THE SAME

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Abstract:
A radiator cover (radiator cover of a straddle-type vehicle) is arranged relative to a radiator, of which a core surface is arranged in an arrow R direction (laterally of a vehicle), in a manner to cover an outer side (a side in the arrow R direction) of the core surface, and provided with a plurality of vent holes (a front vent hole, a rear vent hole, and a lower vent hole), which are formed to be opposed to the core surface and respectively, opened in different directions.

No. of Pages: 40 No. of Claims: 15
The present invention relates to the use of a compound of formula (I) or a mixture of compounds of formula (I) wherein: R₁, R₂, R₃ in each case independently of each other represents hydrogen or an alkyl group having 1 to 3 C-atom, wherein at least one group is not H; R₄ represents hydrogen, an alkyl group having 1 to 6 C-atom or an alkenyl group having 2 to 6 C-atom; R₅, R₆, R₇, R₈ in each case independently of each other represent hydrogen or methyl; R⁹ represents hydrogen, an alkyl group having 5 to 12 C-atom or an alkenyl group having 5 to 12 C-atom; as a flavoring substance or mixture of flavoring substances.

![Chemical Structure Diagram]

No. of Pages: 60
No. of Claims: 19
A coating composition includes a conductive polymer including at least one of the following: a single conductive polymer, a dual strand conductive polymer, a combination of a single conductive polymer and a dual strand conductive polymer or an organic-inorganic hybrid composite.
The invention discloses an apparatus for measuring lung ventilation, comprising: a pressure device to measure volume of air flow; an aerosol-generating device that provides aerosol particles to be released at a determined point in a breathing cycle; a detector that measures the concentration of aerosol particles for a given volume during the breathing cycle; a computing device configured to provide lung ventilation data as a function of time constants; and a coupling device configured to interact with the computing device and aerosol-generating device, wherein the coupling device is a 3-way valve.
**Title of the invention:** METHOD FOR GENERATING MICRONIZED SULPHUR

| (51) International classification | :C01B 17/033 |
| (31) Priority Document No | :60/836,849 |
| (32) Priority Date | :10/08/2006 |
| (33) Name of priority country | :U.S.A. |
| (86) International Application No | :PCT/IB2007/004161 |
| Filing Date | :10/08/2007 |
| (87) International Publication No | :WO 2008/041132 |
| (61) Patent of Addition to Application Number | :NA |
| Filing Date | :NA |
| (62) Divisional to Application Number | :NA |
| Filing Date | :NA |

**Abstract:**
A method of producing micronized sulphur wherein elemental sulphur is dissolved in a solvent for sulphur to produce a sulphur-solvent solution and precipitation of the dissolved sulphur is effected or controlled by manipulation of at least one of pressure, temperature or water content in the solvent to produce the micronized sulphur.

No. of Pages : 19 No. of Claims : 17
The invention relates to a device (1) for decelerating a moving mass. Said device comprises a movably guided coupling member (13) for pressing a brake lining (14) against a braking surface (15), a brake cylinder (9), filled with a hydraulic liquid, a brake piston (10) which is movable inside the brake cylinder (9) and connected to the coupling member (13), and at least one hydraulic line (2, 3) that can be connected to the brake cylinder (9), said device ensuring the moving masses to be reliably decelerated. The invention is characterized in that fluidic-mechanical safety brake means (51) are used to connect the brake cylinder (9) to the one or more hydraulic lines (2, 3).
The present invention provides C-glycoside derivatives and salts thereof, wherein B ring is bonded to A ring via -X- and A ring is directly bonded to the glucose residue, and it is usable as a Na+-glucose cotransporter inhibitor, especially for a therapeutic and/or preventive agent for diabetes such as insulin-dependent diabetes (type 1 diabetes) and insulin-independent diabetes (type 2 diabetes), as well as diabetes related diseases such as an insulin-resistant diseases and obesity.

No. of Pages : 134 No. of Claims : 12
An anti-effraction safety system for a door or window frame (10) comprising a fixed frame (12) and a mobile frame (14), in which the mobile frame (14) comprises at least one sectional element (20) with a longitudinal groove (32) with two undercut portions (40) set on opposite sides of a longitudinal central opening (42) and in which at least one transmission rod (30) slidably engages said groove (32) and can be displaced in a longitudinal direction by means of a control handle (26). Fixed to the transmission rod (30) is at least one closing element (34) co-operating with a complementary detent (36) fixed to the fixed frame (12). The transmission rod (30) has two through openings (54, 56) both open on respective longitudinal edges of the rod (30). The closing element (34) comprises two separate complementary parts (60, 62) fixed to one another, in which each of said separate parts (60, 62) engages a respective through opening (54, 56) of the transmission rod (30) and has a respective tenon (64, 72) that slidably engages in a longitudinal direction a respective undercut portion (40) of the groove (32).
(54) Title of the invention: TORQUE TRANSMISSION ASSEMBLY FOR USE IN SUPERCONDUCTING ROTATING MACHINES

(51) International classification: H02K 3/47
(31) Priority Document No: 11/533,595
(32) Priority Date: 20/09/2006
(33) Name of priority country: U.S.A.
(86) International Application No: PCT/US2007/078384
   Filing Date: 13/09/2007
(87) International Publication No: WO 2008/036545
(61) Patent of Addition to Application Number: NA
   Filing Date: NA
(62) Divisional to Application Number: NA
   Filing Date: NA

(71) Name of Applicant:
1) AMERICAN SUPERCONDUCTOR CORPORATION
   Address of Applicant: 64 JACKSON ROAD DEVENS, MA U.S.A.

(72) Name of Inventor:
1) PETER M. WINN

(57) Abstract:
A rotor assembly includes a superconducting winding assembly positioned within a cryogenic region of the rotor assembly. The rotor assembly includes a torque transfer assembly that includes first and second tubes that are positioned in a radial space external to the superconducting winding assembly and that extend along a longitudinal axis of the rotor assembly.
The present invention relates to an injection device (1) comprising: - a body (3) designed to receive a product to be injected, furnished at its distal end with an injection needle (7) and receiving a piston (5) capable of being moved between a storage position and an end-of-injection position under the effect of a distal pressure exerted on a piston rod (8) to the distal end of which it is attached, - means of protecting the injection needle (7) capable of adopting an initial position, during which the injection needle (7) is uncovered, and a final position, in which the said injection needle (7) is covered, - biasing means (26) aiming at moving the said covering element (6) from its initial position to its final position, - immobilization means (16, 31) aiming at keeping the said covering element (6) in its initial position, the said injection device (1) being characterized in that: - the said piston rod (8) comprises at least a first portion (9) and at least one second portion (10) coupled to the said piston (8), the said first and second portions (9, 10) being operatively coupled together and selectively movable together in the distal direction, at least one of said first portion (9) and said second portion (10) being movable in the proximal direction separate from said other one of said first portion (9) and said second portion (10).
Title of the invention: FAST FILTERING POWDER CATALYTIC MIXTURES

Abstract:
The catalytic mixture resulting of a metal powder catalyst with a solid material (referred to here as a reaction-aid) that has good filtering properties, does not interfere with the reaction, does not interfere with recycling the catalyst back into the reaction, does not interfere with the refining and recovery of the metal from the catalyst after it is spent, and will not become separated from the catalyst during the preparation of this catalytic mixture, the chemical reaction or the separation of this catalytic mixture from the reaction medium, whereas the ratio of the reaction aid to the catalyst ranges from 0.05 to 20 on a weight basis. The catalytic mixture can be used for the catalytic transformation of compounds.

No. of Pages: 51 No. of Claims: 17
Title of the invention: A PROCESS FOR THE PREPARATION OF A READY TO EAT FOOD SNACK

Abstract:

This invention relates to a process for the preparation of a ready to eat healthy food snack comprising steps of:-

a. soaking raw vegetable product in water
b. boiling the soaked vegetable product in water
c. freeze drying the boiled food product
d. adding freeze drying ingredients thereto followed by packing.

No. of Pages : 8 No. of Claims : 9
| (51) International classification       | :B64B 1/06       | (71) Name of Applicant :  
|                                        |                 | 1) LTA CORPORATION  
|                                        |                 | Address of Applicant: C/O GOELET LLC, 425 PARK  
|                                        |                 | AVENUE, NEW YORK, NY U.S.A.  
| (31) Priority Document No             | :60/852,971     | (72) Name of Inventor :  
| (32) Priority Date                   | :20/10/2006     | 1) BALASKOVIC, PIERRE  
| (33) Name of priority country        | :U.S.A.         |  
| (86) International Application No    | :PCT/US2007/021962 |  
| Filing Date                          | :15/10/2007     |  
| (87) International Publication No    | :WO 2008/105851 |  
| (61) Patent of Addition to Application Number | :NA |  
| Filing Date                          | :NA             |  
| (62) Divisional to Application Number | :NA            |  
| Filing Date                          | :NA             |  

(57) Abstract:
An airship may include a hull substantially shaped as an oblate spheroid, one or more frame members defining a support structure, wherein the support structure forms at least a partial support for the hull, at least one horizontal stabilizing member operably coupled to a lower surface of the airship, and at least one horizontal stabilizing member having a first end and a second end. The at least one horizontal stabilizing member may define an anhedral configuration. The airship may also include a vertical stabilizing member having a first end pivotally coupled to the airship and a second end oriented to remain below an upper surface of the airship. The vertical stabilizing member may be configured to pivot within a vertical plane, and the first end of the vertical stabilizing member and the first end of the at least one horizontal stabilizing member may be operably coupled to one another.
An arc plate (100,100") for a circuit breaker arc chute assembly (50) includes first and second portions (102,104) coupled to opposing sidewalls (52,54) of the arc chute assembly (50), first and second ends (106,108), and a throat portion (110) between the first and second portions (102,104) and including an aperture (112). The aperture (112) extends from the first end (106) toward the second end (108) and includes an end section (114), an intermediate neck section (116) adjacent the end section (114), and an interior section (118) adjacent the intermediate neck section (116) and distal from the end section (114). The end section (114) has a first width (120) and attracts and directs an arc (12) toward the intermediate neck section (116). The intermediate neck section (116) tapers from the first width (120) of the end section (114) to a second width (122), further attracting the arc (12) and directing it into the interior section (118). The interior section (118) includes a taper (124) and turns with respect to the intermediate neck section (116), in order to attract and retain the arc (12).
Notice is hereby given that any person interested in opposing the following applications for Restoration of Patents under Section 60 of the Patent Act, 1970, may at any time within 2 months from the date of publication of this notice, give notice to the Controller of Patents at the appropriate office on the prescribed Form 14 under rule 85 of the Patents Rules, 2003.

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**OPPOSITION U/S.25(2)**

An opposition under section 25(2) has been filed by M/s. Ranbaxy Laboratories Ltd, India on 21st May, 2009 in respect of Patent No. 220287(IN/PCT/2001/338) in the name of M/s. Eli Lilly and Company, U.S.A.
Publication Under Section 43(2) in Respect of the Grant

Following Patents have been granted and any “person interested” in opposing these patents under Section 25(2) may at any time within one year from the date of this issue, to the Controller of Patents at the appropriate office, on the prescribed form-7 along with written statement and evidence, if any.

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