

Diego Gonzalez

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Title: BATTERY CHARGING COACTION AND OUTPUT SYSTEM WITH CURRENT LIMIT SUPPLY

Abstract: The present invention relates to a power system utilizing an engine generator or public power with AC source, wherein the power system particularly has the characteristics that the maximum output current thereof is limited by electromagnetic effects, and/or constant current or nearly constant current output thereof is set to be lower than the maximum output current, for powering a load, and charging a battery, or jointly powering a load with a battery; when an engine generator set is utilized to be power supply, during operation, the engine operates with the best brake specific fuel consumption and/or the range of revolutions and torque for better energy saving.

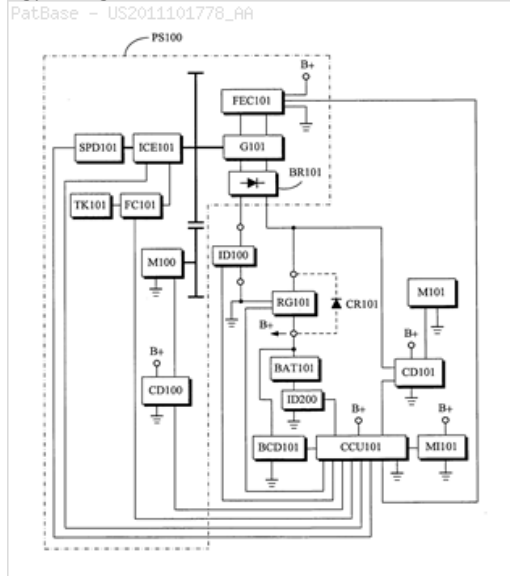
Classifications:

International (IPC 8-9): B60L11/18 B60R16/03 B60R16/04
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H02J3/38 H02J7/00 H02J7/02 H02J7/04 H02J7/14 H02J7/16 H02J7/34
H02J9/06 H02P9/04 (Advanced/Invention);
H02J7/34 (Core/Non-invention)

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**Family:**

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AU2010241243 AA	20110519	AU20100241243	20101104
AU2010241243 BB	20151119	AU20100241243	20101104
BRPI1004666 A2	20130226	BR2010PI04666	20101105
CA2719773 AA	20110505	CA20102719773	20101102
CA2719773 C	20170718	CA20102719773	20101102
CN102055232 A	20110511	CN200910212363	20091106
CN102055232 B	20140917	CN200910212363	20091106
CN201663472 U	20101201	CN200920266438U	20091106
DE202010015132 U1	20110601	DE201020015132U	20101104
EP2330713 A2	20110608	EP20100190052	20101104
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RU2010145118 A	20120510	RU20100145118	20101103
RU2543504 C2	20150310	RU20100145118	20101103
TW201117520 A	20110516	TW20090137725	20091106
TWI502850 B	20151001	TW20090137725	20091106
TWM416930 Y	20111121	TW20090220577U	20091106
US2011101778 AA	20110505	US20090591025	20091105
US8552588 BB	20131008	US20090591025	20091105

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CA20102719773 20101102

Probable Assignee: YANG TAI HER**Assignee(s):** (std): JANG TAJ KHER ; TAIHE YANG ; YANG TAI HER ; YANG TAIHE**Assignee(s):** TAI HER YANG**Inventor(s):** (std): JANG TAJ KHER ; YANG TAI HER ; YANG TAIHE ; TAIHE YANG**Inventor(s):** TAI HER YANG**Agent(s):** DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; WRIGHT HOWARD HUGH BURNBY; BACON AND THOMAS PLLC**Designated states:** AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Title: HYBRID ELECTRIC VEHICLE

Abstract: A hybrid electric vehicle includes a high voltage DC bus and an internal combustion engine. The internal combustion engine is mechanically coupled to a non self-excited generator/motor which is preferably a switched reluctance machine. A power inverter electrically and bidirectionally couples the high voltage DC bus to the non self-excited switched reluctance generator/motor. Front and rear axle dual DC-AC inverters electrically and bidirectionally couple two traction AC non self-excited switched reluctance motors/gear reducers to the high voltage DC bus for moving the vehicle and for regenerating power. An ultracapacitor coupled to the high voltage DC bus. A bidirectional DC-DC converter interposed between a low voltage battery and the high voltage DC bus transfers energy to the high voltage DC bus and ultracapacitor to ensure that the non self-excited switched reluctance generator/motor operating in the motor mode is able to start the engine.

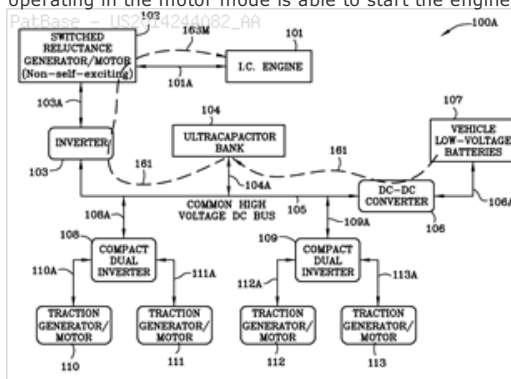
Classifications:

International (IPC 8-9): B60K B60K1/02 B60K23/08 B60K6/20 B60K6/22 B60K6/26 B60K6/28 B60K6/42 B60K6/46 B60L B60L11/00 B60L11/08 B60L11/12 B60L11/18 B60L15/20 B60L7/14 B60L7/20 B60L9/00 B60R16/03 B60W B60W10/00 B60W10/04 B60W10/06 B60W10/08 B60W10/24 B60W10/26 B60W20/00 B60W20/15 F02D29/00 F02D29/06 G06F H02P25/08 H02P9/00 (Advanced/Invention); H02J1/00 (Advanced/Non-invention)

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Family:

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AU2014200922 AA	20140911	AU20140200922	20140221
BR102014004304 A2	20171219	BR20141004304	20140224
CA2843335 AA	20140825	CA20142843335	20140220
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EP2769868 A3	20160413	EP20140154742	20140211
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US2016052383 AA	20160225	US20150929390	20151101
US9174525 BB	20151103	US20130038740	20130926
US9878607 BB	20180130	US20150929390	20151101
ZA201401266 A	20141223	ZA20140001266	20140219

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Title: ADECUACION DE UN VEHICULO A ELECTRICO FITNESS FOR A VEHICLE TO ELECTRIC (Machine translation)

Abstract: Source: CO7050110U [ES] [Source: Claim 1] *** WARNING: OCR DATA - MAY BE INCOMPLETE *** **

Please email the Publication Number to Patbase@rws.com of any affected text for review *** Reivindicaciones:

N degrees folios: 1. El Descripcion 2. El Reivindicaciones 3. (3 Dibujos y/o figuras 4. El Resumen. 5. ? Documento de Prioridad. 6. ? Traduccion del documento de prioridad. 7. ? Certificado de deposito de material biologico si fuera el caso. 8. ? Listado de secuencias de nucleotidos y/o aminoacidos en forma digital si fuera el caso. 9. El Arte final 12x12. 10. ? Anexo formato digital. Documentacion Juridica 11. ? Poderes, si fuera el caso. 12. ? Documento que legalmente pruebe la cesion del

inventor al solicitante o a su causante. 13. ? Copia del contrato de acceso de recursos geneticos o productos derivados, o certificado o numero de registro, si fuera el caso. 14. ? Copia de la licencia o autorizacion de conocimientos tradicionales, o certificado o numero de registro, si fuera el caso. 15. Reduccion de tasas Micro, pequenas o medianas empresas ? Copia simple de la declaracion de renta del ano inmediatamente anterior, o en su defecto prueba documental idonea. ? Documento de constancia de cumplimiento con lo establecido en la ley 905 de 2004. Universidades publicas o privadas ? Copia acto de reconocimiento institucional emitido por el Ministerio de Educacion Entidades sin animo de lucro ? Copia de registro vigente en Camara de comercio. ? Hoja de informacion complementaria. ? Otros, especificar 1G. ? Comprobante de pago de la tasa de presentacion de la solicitud. 17. ? Comprobante de pago por reivindicacion de prioridad. 18. ? Comprobante de pago de la tasa por concepto de excedente de palabras en la publicacion. 19. ? Comprobante de pago por reivindicacion adicional a 10. z a Industria y Comercio SUPERINTENDENCIA HOJA DE INFORMACION COMPLEMENTARIA 1 (12) TIPO DE SOLICITUD NUMERO DE RADICACION ? Patente de invencion Patente de Modelo de Utilidad FECHA DE PRESENTACION 29 Octubre de 2013 4 (71) SOLICITANTE (S) APELLIDOS 0 RAZON SOCIAL NOMBRE IDENTIFICACION TIPO i. Rodriguez Coca Carlos Eiler 11222581 DATOS DEL SOLICITANTE PAIS DE RESIDENCIA 1 Colombia DEPARTAMENTO/ESTADO Cundinamarca CIUDAD Bogota DIRECCION Cr 97B# 153-70 TELEFONO 3005705057 FAX E-MAIL eilerer@gmail.com NACIONALIDAD Colombiana 6 (72) INVENTOR (ES) APELLIDOS 6. Rodriguez Coca 7. Rodriguez Mahecha 8 Rodriguez Coca 9. Amortegui Gil NOMBRE Carlos Eiler Carlos Alfonso David Leonardo Francisco Javier NACIONALIDAD Colombiana Colombiana Colombiana Colombiana 7 DATOS INVENTOR (ES) DIRECCION CIUDAD DEPARTAMENTO/ESTADO PAIS RESIDENCIA 6. Cr97B# 153-70 Bogota Cundinamarca Colombia 7. cr 72 B #22 A - 90Torre 7 apt 902 Bogota Cundinamarca Colombia 8 cr 72 B #22 A - 90Torre 7 apt 902 Bogota Cundinamarca Colombia 9 Av. cr 30 #45-03 edf 411 ofc 102 Bogota Cundinamarca Colombia 9 (30) DECLARACIONES DE PRIORIDAD PAIS DE ORIGEN CODIGO PAIS NUMERO FECHA (AAAA/MM/DD) 4. 5. 6. 7. 8 9. 10. En caso de ser una persona natural y carecer de medios economicos y por tanto lo aplique la reduccion de tasas a la que se refiere la resolucion vigente en tarifas, debe firmar la presente solicitud bajo la gravedad de juramento. 3. Anexos Persona Natural Persona Juridica Carlos Eiler Rodriguez Coca Nombre o denominacion / Nombre o razon social Micro CU Pequena CL Mediana LJ OtroI I Tipo de empresa Documento de identificacion: C.C.m C.E.L] NIT.[J OtroLI Numero: 1.122.581 Micro, pequenas y medianas Universidades publicas o privadas Entidades sin animo de lucro CU Universidad publica empresas I I Copia de registro vigente en | iCopia simple de la declaracion de LJ Universidad privada Camara de comercio. de ano inmediatamente renta L J Hoja de informacion anterior, defecto prueba su en Copia acto de reconocimiento documental Idonea. complementaria. institucional emitido por el I | Otros, especificar _] Documento de constancia de Ministerio de Educacion. cumplimiento con lo establecido en la ley 905 de 2004 Nacionalidad/Pais de constitucion Direccion y domicilio del titular Colombiana Carrera 97B Na 153-70 Direccion electronica elle rollar@gmail.com No. Fax Numero telefonico 3005705057 2.BENEFICIARIO Nombre: Rodriguez Coca Carlos Eiler Direccion: Cr 97B # 153-70 Telefono: 3005705057 £? C.C. ? NIT Nacionalidad o Domicilio: Colombiana Ciudad: Bogota CE Otro ? ? ft Industria y Comercio Espacio reservado para el adhesivo de radicacion SUPERINTENDENCIA DIRECCION DE NUEVAS CREACIONES FORMULARIO DE REDUCCION DE TASAS 1. Identificacion del Tramite [] PATENTE DE INVENCION PATENTE DE MODELO DE UTILIDAD [' J Examen de Patentabilidad | | Tasas de Mantenimiento Resumen del Vehiculo electrico (VE1) Esta patente de utilidad fue pensada en personas diversamente habiles (en condicion de discapacidad), que tenga una trombosis, paralisis de medio cuerpo. 1. Resumen: Adecuacion de un vehiculo (de combustion interna a energia) para evaluar el comportamiento de la potencia, voltaje, corriente y temperatura de las baterias con respecto al tiempo mientras esta en funcionamiento y en estado de carga. Este proyecto pretende mostrar la adecuacion de vehiculo de combustion interna para que funcione con energia electrica el vehiculo electrico, se llama prototipo CE1, que fue disenado para transportar dos personas con un peso de 85 kilogramos cada una. Consiste en el acople de un motor electrico conectado a una transmision o caja de cambios, un control de velocidad y banco de baterias, esta compuesto por elementos mecanicos los cuales pueden agruparse en los siguientes: Chasis y carroceria, suspension, direccion, frenos, Transmision. Las pruebas buscan evaluar el comportamiento de algunas variables que afectan el funcionamiento del vehiculo electrico como son: Voltaje, corriente, potencia, torque, velocidad, peso, temperatura del motor y de las baterias y autonomia de recorrido, se disenaron pruebas a traves de las cuales se observa, se mide y analiza las variables que son capturadas mediante sensores y transmitidas al pe, considerando estandares como la norma SAEJ1634 (para desempeno energetico). Y Standar de IEEE 450 (para mantenimiento y pruebas de baterias de plomo acido) el vehiculo sera instrumentado con un computador portatil y una tarjeta de adquisicion de datos (NI USB 6210 National Instruments), donde se recibirán las variables. Las pruebas son de dos tipos dinamicas y estaticas en las primeras se evalua el consumo de energia, velocidad promedio, distancia recorrida, la temperatura de las baterias, la altitud promedio de topografia, y el peso. Las pruebas estaticas evaluan el consumo de energia y la temperatura del banco de baterias. Palabras claves: Vehiculo electrico, velocidad, baterias, voltaje, potencia, temperatura, torque, autonomia de recorrido. 1.1 Sector tecnologico al que se refiere o aplica la invencion El sector tecnologico al que hace referencia la patente de utilidad son los siguientes: Mecanico, electrico, electronico y ambiental. 1.2 Estado de la tecnica El origen del vehiculo electrico se remonta a la primera mitad del siglo XIX. Si bien se trataba de prototipos que ahora dificilmente se podrian llamar vehiculos, si tenian esa intencion. Es el caso del diseno del hungaro Anyos Jedlik. Imagen 1. Primer diseno de vehiculo electrico de anyos jedlik En la decada de 1830 el escocés Robert Anderson invento el primer vehiculo electrico; en 1835, Sibrandus Stratingh y Christopher Becker construyeron vehiculos electricos a escala reducida en los Paises Bajos. El 1867 Franz Kravogl presento un ciclo de dos ruedas movido por motor electrico. Igualmente, en Estados Unidos creadores como Braker, Edison y Studebaker intentaban desarrollar modelos electricos con base en los avances que habian logrado los franceses Gaston Plante en 1865 y Camille Faure en 1881, en materia de baterias1. A pesar de que este tipo de vehiculo se proyectaba de manera eficiente, el mejoramiento del arranque electrico del Cadillac (1913) para el vehiculo de 1 La Evolucion del auto electrico. [En linea]. Consultado [5, mayo, 2011], Disponible en: <http://www.tarinua.net/posts/autos-motos/16370540/La-evolucion-del-auto-electrico.litml> combustion interna elimino las desventajas de la traccion de combustion interna y evidencio las desventajas que hasta el momento tenia la tecnologia del vehiculo electrico tales como la confiabilidad del suministro electrico, la capacidad de almacenamiento de las baterias, ademas de la creciente euforia por los hallazgos de petroleo. Por esas razones la industria del vehiculo electrico llego a su fin en 1930 hasta que en la Segunda Guerra Mundial, dada la escasez de combustible se revitalizo el interes por esta tecnologia. No obstante, al finalizar la guerra su volvio a abandonar cualquier proyecto al respecto2. • Antecedentes del vehiculo hibrido Ya en 1896 H.J. Dowsing y L Epstein patentaron su planteamiento acerca de la hibridacion en paralelo. Por esta misma epoca Ferdinand Porsche diseno un motor de gasolina que giraba a velocidad constante, alimentando un dinamo para cargar unas baterias electricas. El arranque del motor de gasolina se hacia a traves del mismo dinamo. Este es considerado el primer vehiculo hibrido, tenia una autonomia de 64 k con solo baterias. No tenia conexon mecanica entre el motor termico y las ruedas, por lo que no necesitaba transmision o embrague. Este prototipo se lanzo por primera vez en abril de 1890 en Paris como el Lohner Porsche y se fabricaron 300 unidades. Para 1899 la empresa Compania General Espanola de Coches Automoviles fabricaba vehiculos que constaban de un carruaje biplaza, una camioneta, un camion y un bus electricos. El 1975 la legislacion en California impuso el empleo de una sistema que redujera los gases de escape de los motores para hacerlos menos nocivos. Dieciocho anos mas tarde esta medida seria acogida en Europa3. Tipos de vehiculos hibridos El vehiculo hibrido es en esencia un vehiculo electrico que incorpora un motor de combustion con el cual se recargan, en marcha las baterias a medida que la energia de estas se consume. Si bien su traccion es siempre electrica en algun momento el motor de combustion convencional provee al vehiculo la potencia adicional necesaria para cubrir la demanda de velocidad o potencia, mientras que el sistema electrico opera en momentos de baja demanda4. 2 Ibid. ' COSTAS Javier. (2009). Historia del Coche Hibrido: los Pioneros. [En linea]. Consultado [5, mayo, 2011], Disponible en: <http://www.motorpasion.com/cocles-liibridos-alternativos/historia-del-coche-hihrido-los-pioneros> NAVARRO, Ezequiel; COLOMER, Pau y JEREZ, Felipe. (2010). "Nuevos Retos en la Electronica del Automovil". Revista espanola de electronica. El Vehiculo electrico esta compuesto fundamentalmente por un generador sincronico de corriente alterna que produce la electricidad para cargar las baterias y funciona como motor de partida para el motor diesel; los inversores que tienen la funcion de convertir la corriente continua de la bateria en corriente alterna para mover el motor electrico e invertir la corriente alterna del generador en corriente continua para cargar la bateria. Tambien se utiliza para variar la frecuencia de la corriente dependiendo de la revoluciones del motor electrico. El divisor de potencia en hibridos en paralelo permite dividir la potencia a partir de un engranaje que distribuye el giro del motor convencional entre la traccion y el generador; este elemento controla las revoluciones del generador y funciona a la vez como una transmision continua. Esta tecnologia proporciona una mayor eficiencia energetica en comparacion con los vehiculos convencionales ya que permite reducir el consumo de combustible fosil al tiempo que aumenta la participacion de sistema electrico. Existen varias marcas y modelos que han implementado esta tecnologia, es el caso del Volvo ECC que en lugar de motor alternativo lleva una turbina de gas que permite bajos consumos y potencias elevadas. Dicha turbina mueve un generador que a su vez carga las baterias de las que toma su energia el motor electrico el cual finalmente mueve las ruedas. Cuando es necesario, la turbina auxilia al motor electrico con lo que la autonomia de 56 km pasa a 146 km y logra pasar de 0 a 100 km/h en 13 segundos en lugar de los 23 que requiere con solo las baterias5. Asi mismo, Volkswagen condiciono un motor electrico a continuacion de su motor, en el lugar del embrague y antes de la caja de cambios. Los Golf electrohibrido y el Concepto 1 incorporan un embrague al lado del grupo electrico de manera que se

puede funcionar como electrico, como Diesel e incluso por inercia. El Mitsubishi ESR alcanza 160 km por su motor electrico y sus cuatro cilindros de gasolina⁶. Existen diferentes tipos de hibridos como los que emplean condensadores de alta capacidad para almacenar energia electrica, los que acumulan presion hidraulica o neumatica para ir liberandola gradualmente o los que almacenan energia cinetica. Se clasifican de acuerdo con la configuracion del sistema de transmision de energia al motor o generador en sistema en serie o en paralelo. Los primeros utilizan un motor convencional acoplado a un generador que produce energia para el motor electrico que acciona el giro de la ruedas, o sea, tiene una sola entrada de energia al motor. El sistema en paralelo tiene dos entradas de energia al motor provenientes del sistema electrico y del sistema convencional⁷. • El vehiculo electrico El vehiculo electrico es un vehiculo que utiliza corriente electrica para obtener la traccion del motor. Dentro de las ventajas que presenta este tipo de vehiculos esta la posibilidad de incorporar diferentes tipos de fuentes de energia renovables y su operacion es silenciosa y sin emisiones contaminantes. Los vehiculos electricos suelen clasificarse de acuerdo con la fuente de energia usada para generar la traccion, asi hay vehiculo de baterias, vehiculo electrico con alimentacion directa (catenarias) y VE por aire comprimido. El primero suele ser cargado a traves de una red electrica domestica u otro sistema de alimentacion. Este tipo de vehiculos presenta la desventaja de su poca autonomia ya que todos sus sistemas dependen del almacenamiento que logre la bateria el cual por lo general oscila entre 30 y 60 millas⁸. El VE es, en el corto plazo, en una buena alternativa de transporte para las grandes ciudades altamente congestionadas, con restricciones de movilidad, zonas historicas o con restricciones de velocidad. Asi mismo, esta tecnologia se proyecta a convertirse en una de las alternativas de punta para el transporte masivo de pasajeros, es el caso de la ciudad de Bogota que tiene proyectado implementar nuevamente la modalidad de Trolebus y donde ya se encuentran en funcionamiento una flota de taxis electricos⁹. Otro de los usos que se han implementado para la traccion electrica es el transporte de carga. El diseno de estos vehiculos permite un desplazamiento fundamentalmente horizontal, vertical o combinado que depende del peso que lleve, el grado de pendiente y el nivel de carga en el que se encuentren las baterias y en recorridos relativamente cortos¹⁰. 7 Ibid. s Ibid. 'VELANDI A, Duran Edder Alexander. (2009) Energia Electrica. Alternativa energetica para el transporte urbano sustentable en Colombia. Cargraphics S.A. Bogota. Desventajas del prototipo: • Una desventaja de este prototipo son las baterias con las cuales esta funcionando debido a que son muy pesadas y la cantidad de energia es muy pequena con respecto a unas baterias de litio. Estas son mas livianas y poseen mas cantidad de energia. • El peso del chasis, hay materiales mas livianos y resistentes el vehiculo no cuenta con este tipo de materiales para el chasis, el chasis es en hierro. • La transmision, el vehiculo no cuenta con una transmision muy eficiente, solo posee dos cambios adelante y atras, si el vehiculo tuviera una caja de cambios de hasta cinco velocidades seria mas eficiente. • La aerodinamica del vehiculo no es mas apropiada por que la posicion al viento genera resistencia y hace que consuma mas energia. • Hace falta un alternador para que cargue la bateria auxiliar. • Cuando el vehiculo es sometido a una pendiente su autonomia se puede ver afectada. Objetivo de la invencion: • Reducir las cantidades de CO2 generadas por los vehiculos de combustion interna y disminuir la cantidad de ruido generada por todos los vehiculos. • El carro electrico esta disenado para una persona diversamente habil (en condicion de discapacidad) que sufra de un diagnostico hemiparesia izquierda, esto quiere decir que la persona sufrio un accidente cerebro vascular o un trauma craneo encefalico, perdiendo la movilidad de la pierna izquierda y su brazo izquierdo. El vehiculo electrico es automatico lo que hace que tenga acelerador y freno, los cuales pueden ser controlados con la pierna derecha. • Adecuar un vehiculo para que funcione de forma electrica. Ventajas de! prototipo: • Disminuye la contaminacion auditiva y no genera emision de gases contaminantes. • El consumo de energia para el vehiculo electrico es mas economico que el consumo de energia para un vehiculo de combustion interna. • Es economico y cuida el medio ambiente por que no genera emisiones y todo el vehiculo es 100 percent reutilizable. • No ocupa tanto espacio como otros vehiculos. • Es de facil manejo y seguro. • El mantenimiento del prototipo CE1 es mas economico con respecto a uno de combustion interna, ya que el vehiculo no necesita de: carburador, sistema de inyeccion, tubo de escape, radiador, tanque de gasolina entre otros. 7 II 2. La Descripcion de! invento. i 19 17 23 39 40 44 Figura 1. Vehiculo CE1 Descripcion del prototipo CE1: • Dimensiones: Altura maxima: 140.5 cm. Anchura maxima: 1.28 cm. • Caracteristicas generales: Estructura: chasis en hierro Carroceria: fibra de vidrio Direccion: mecanica Frenos: bandas. Neumaticos trasmision: Rin 12' • Prestaciones: Potencia: 15 Caballos de fuerza, 11 kv Velocidad maxima: 30 Km/h Aceleracion de 0 a 30 Autonomia: 23 Km 8 Figura 2. Vista frontal del vehiculo electrico CE1. 1. Panoramico. 2. Soporte para el panoramico. 3. Espejo retrovisor izquierdo. 4. Luz izquierda, altas y bajas. 5. Direccion izquierda 6. Luces diurnas izquierdas. 7. Llanta delantera izquierda. 8. Llanta delantera derecha. 9. Parachoques. 10. Luces diurnas derechas. 11. Direccion derecha. 12. Luz derecha, altas y bajas. 13. Espejo retrovisor derecho. 2 17 Figura 3. Vista lateral izquierda vehiculo electrico CE1. 14. Timon. 15. Freno de mano. 16. Palanca de Cambio. 17. Espaldar asiento. 18. Barra antivuelco. 19. Llanta de repuesto. 20. Antena. 21. Llanta trasera izquierda. 22. Amortiguador delantero izquierdo. 23. Carroceria. 24. Capo. 25. Direccion lateral izquierda. 26. Parachoques trasero. Figura 4. Vista posterior del vehiculo electrico CE1. Espaldar asiento del copiloto. Direccion trasera derecha. Luz de reversa derecha. Llanta trasera izquierda. Luz de reversa izquierda. Reflector rojo derecho. Reflector rojo izquierdo. Stop (luz de pare) izquierdo. Stop (luz de pare) derecho Tercer stop. 37 21 8 30 £4 15 9 41 16 7 Figura 5. Vista interna de los elementos relevantes del chasis. 37. Cargador de baterias marca ELCON PFC-1500 BATTERY CHARGER. 38. Transmision. 39. Motor. 40. Frenos de campana. 41. Control de velocidad marca CONTROLADOR G4827 42. Pack de baterias recargables de ion- litio de alta tension 43. Pedal de freno. 44. Pedal de acelerador. 45. Bateria auxiliar para sistema de luces. 46. Tanque de liquido de frenos. 12 2.1 Descripcion de los elementos mas relevantes del chasis del vehiculo electrico CE1. 2.1.1. Cargador de baterias marca ELCON PFC-1500 BATTERY CHARGER. Figura 6. ELCON. PFC-1500 BATTERY CHARGER. La alimentacion de un vehiculo electrico se realiza a traves de cargadores, los cuales toman la energia de una red disponible y la transmiten a la bateria. El cargador de baterias es el dispositivo electronico encargado de transformar la corriente alterna en corriente directa, cuyo unico objetivo es cargar las baterias del vehiculo electrico. El cargador que se uso en el presente prototipo es marca ELCON INDUSTRIAL BATTERY CHARGER MODEL: PFC 1500. Ver figura 6. A continuacion se mencionan las caracteristicas del dispositivo: • Integrado PFC interna, ninguna contaminacion a la red electrica, reduce al minimo las perturbaciones en la red electrica de corriente fuerte. • Amplia gama de voltaje de entrada AC85V - AC265V, disponible para los requisitos exigidos a nivel mundial, conveniente para las fluctuaciones de la red electrica y vehiculos de exportacion. • Alta eficiencia, por encima de 93 percent. • Funcion inteligente de compensacion de temperatura en el proceso de carga, la prevencion de danos a la bateria causada por la anulacion de deudas o cargas de vencimiento que extiende en gran medida la vida util de la bateria. • Totalmente sellada. Proteccion IP46, resistente al movimiento y la vibracion del vehiculo. • Disponible para diversos tipos de baterias, flexible, modulo de carga programable. Amp ajustable, equipado con interfaz de tiempo. Ver Tablas 1 y 2. Tabla 1. ESPECIFICACIONES TECNICAS DEL CARGADOR DE BATERIAS Especificacion Modelo Voltaje de salida Nominal Voltaje de salida -Maxima 230vac Corriente de salida -Maxima 115vac TCCH-24-40 24 V 34V 40" TCCH-36-33 36V 51V 33a TCCH-48-25 48V 68V 25A TCCH-60-20 60V 85V 20A TCCH-72-16 72V 120V 16A TCCH-96-12 96V 136V 12A f CCH-120-10 120V 170V 10A TCCH-144-08 144V 203V 8A TCCH-156-07 156V 217V 7A TCCH-192-06 192V 258V 6.2A TCCH-240-05 240V 340V 5A Tabla 2. RASGOS TECNICOS CA Rango de voltaje de entrada AC85V ~ AC265V Frecuencia de entrada CA 45 ~ 65 Hz AC Factor de Potencia £0,98 Rendimiento a plena carga £ 93 percent Choques y Nivel de vibracion Resistencia Conformidad con las SAEJ1378 estandar Ambiental Caja IP65 Temperatura de funcionamiento -40 degrees centigrade - 55 degrees C Temperatura de almacenamiento -40 degrees C ~ 100 degrees C Dimension mecanica s 35 2 mm * 175 mm * 139 mm Peso neto 6.33kg La ubicacion del cargador de baterias lo podemos ver en la figura 5 en el interior del chasis, en la posicion numero 37. 2.1.2 Transmision. El sistema de transmision se define como el conjunto de elementos que tienen como funcion hacer llegar el giro que produce el motor a las ruedas del vehiculo. En el vehiculo electrico se omitieron elementos como embrague, caja de cambios arbol de transmision y cardan, elementos utilizados comunmente en los vehiculos convencionales de motor a gasolina. En la adecuacion del vehiculo se instalo el motor directamente a la transmision con el fin de reducir perdida de energia. Este sistema entonces esta compuesto por el motor electrico y la transmision Motor: la primera adecuacion que se realizo es la adaptacion del motor electrico al chasis ya que su forma y dimensiones eran diferentes a las del motor de combustion interna anterior. Por ello se elaboro una adaptacion especial en forma de disco disenada en un torno con las especificaciones necesarias para que el motor encajara en el espacio adecuado, y en consecuencia se generara un ajuste y ensamble perfecto directamente con la transmision. Al mismo tiempo se elaboro un soporte de ayuda para que la transmision quedara en la posicion adecuada con el motor Ver fotografia 1,2 y 3. Fotografia 1. Diseno del soporte de la transmision. Fotografia 2. Diseno de disco. Acople motor-chasis La transmision y el motor adecuado los podemos ver en la figura 5 en la posicion numero 38 (transmision), y 39 (motor). 2.1.3 Motor: El motor utilizado en el presente proyecto es un motor sincronico que posee las siguientes caracteristicas: es de imanes permanentes, funciona con un voltaje trifasico de entrada. Ver figura 7. Figura 7. Plano del motor electrico de imanes permanente. 16 2.1.4 Control de velocidad marca CONTROLADOR G4827 La serie G4 es el ultimo diseno de controlador para vehiculos electricos, tiene el tamano mas pequeno de la industria por su capacidad de energia. Este instrumento esta disenado para controlar motores sincronicos de imanes permanentes. Los controladores permiten mediante el intercambio de mensajes sea N. CAN con un sistema de gestion de baterias compatibles, esta caracteristica ayuda a optimizar el campo de practica y mejora la vida de la bateria Ver figura 8. Figura 8. Controlador g4827 Este controlador permite definir y organizar automaticamente los parametros de los motores de induccion, esta caracteristica proporciona una configuracion y combatividad entre el controlador y el motor, incluyendo un conjunto rentable totalmente

integrado de las entradas y salidas para mejorar una amplia gama de requisitos del vehiculo Ver tabla 3. Tabla 3.

ESPECIFICACIONES TECNICAS DEL CONTROLADOR G4827 Model G4827 G4845 G4865 Nominal battery voltage 36 to 48VDC Max. operating voltage 69.6 VDC Min. operating voltage 19.3VDC Peak current (2 min)1 275A 450A 650A Boost current (10 sec)1 330A 540A 780A Cont current {60 min}1 110A 180A 260A Digital inputs 8 Analog inputs 2 (can be config. as digital) Motor temperature sensor input Yes (thermistor) Contactor/solenoid outputs (2A) 3 (1-16kHz)? Motor UVW inputs Yes Motor encoder (AB) inputs Yes Sin/Cos feedback inputs Yes Encoder supply output 5V alt 10V (max. 100mA) Supported CANopen profiles DS301, DS401, DS402 Ambient operating temperature -40 degrees centigrade to +85 degrees C Protection class IP66 Treno logic Spudcflf poro uno large wda łtri y mJitmifl a lai VlfcfiOfiOit 2.1.5 Pack de baterias recargables OPTIMA YELLOW. Es la forma de almacenamiento de energia de los vehiculos electricos. Su principio basico de funcionamiento basa la produccion de energia electrica por medio se en de reacciones quimicas de oxidacion-reduccion que se dan en su interior. La ficha tecnica de las baterias usadas. Ver tabla 4 Tabla 1. FICHA TECNICA DE LAS BATERIAS Physical Characteristics: Plate Design High purity lead-tin alloy Wound cell configuration utilizing proprietary SPIRALCELL(R) technology. Electrolyte: Sulfuric acid, H-SO₃ Case: Polypropylene Color: Case: Light Gray Cover: "OPTIMA" Yellow Group Size: BCI 34 Standard Metric Length: Width: Height: Weight: 10." 6.875" 7.813" 42 91b 254 mm 175 mm 200 mm (height at the top of the terminals) 19.5 kg Terminal Configuration: SAE / BCI automotive Performance Data Open Circuit Voltage (fully charged): 13.1 volts Internal Resistance (fully charged): 0.0028 ohms Capacity: 55 Ah (C/20) Reserve Capacity: BCI: 120 minutes (25 amp discharge, 80 F (26.7 degrees C), to 10.5 volts cut-off) Power: COMPONENTES INTERNOS CCA (EN -18 C): 765 amps MCA (BCI OX): 870 amps Recommended Charging S4Ii4m COMmits entre tildes pe«e uno durcodn superior y maxima titere ł4 plocos dices eltomentf Seoorodores it litre Mont puro. II drtcfi* comprimidas pare una if viir.s ebse-kfntet SpirolcelJ permite *1 uso qua rtitecni t elect/olilo mayor resistencia di plomo m te form* o los rrbiecionf» mdsprva como uM esponje pe re mtor dfrremet Baterias: para adecuar el banco de las baterias fue necesario hacer una modificacion al chasis en la parte delantera del motor y para ello se procedio a ensamblar un soporte en hierro soldado al chasis, el cual sirvio para contener y ajustar las baterias de forma que no quedaran sueltas y no generaran una interrupcion de corriente o cualquier tipo de accidente. Este soporte quedo instalado en la parte inferior trasera del vehiculo con el fin de mejorar su centro de masa y ademas para que pudiera ser cubierto posteriormente por elementos de carroceria y tapiceria, Ver Fotografias 4 y 5.

Fotografia 4. Soporte para las baterias-parte inferior del chasis Fotografia 5. Soporte de las baterias. Vista superior 2.2 Descripcion del chasis. El chasis puede definirse como la estructura rigida en hierro que une todos los elementos del vehiculo. Tiene entre otras funciones soportar las fuerzas estaticas y dinamicas que este produce, de igual manera, mantiene estable los componentes que lo conforman. Es de destacar que ademas brinda seguridad al pasajero pues ayuda proteger su integridad fisica en caso de una colision Ver figura 9. Ver fotografia 6. Figura 9. Estructura del chasis Fotografia 6. Chasis 2.3 Descripcion del ensamble de la carroceria: Carroceria: el siguiente paso fue ensamblar la carroceria no sin antes haber realizado el mantenimiento necesario, pues aunque en el prototipo el deterioro de 2.4 Descripcion del sistema auxiliar: Sistema auxiliar: finalmente se instalo el sistema auxiliar compuesto por los elementos luminosos como luces frontales, luces traseras, direccionales, luces de parqueo, pito, mandos, testigos, etc. Adicionalmente se instalaron los elementos de tapiceria, Ver Fotografias 8 y 9. Fotografia 8. Instalacion de sistema electrico auxiliar. Fotografia 9. Instalacion de direccionales y luces de parqueo. 3. Reivindicaciones A continuacion se enumeran las reivindicaciones 1. Este vehiculo se diseno pensando en una persona diversamente habil (en condicion de discapacidad) que tenga un diagnostico de hemiparesia izquierda. (V) 16 cm 25 cm 31 cm 96 cm P5040127 P5090016 P5090034 ły. * P5130020 P6020019 P5120128 4 P6230035 P6030036 P6230030 L UTS~FR7WCT5C 0 BO AD A ES UNIVERSIDAD NACIONAL DE COLOUEBIA FACULTAD DE INGENIERIA 5JSCKETARU X * UNIVERSIDAD NACIONAL DE COLOMBIA SEDEBOGOTA FACULTAD DE INGENIERIA SECRETARIA academica EL SECRETARIO DE FACULTAD CERTIFICA: CARLOS FILER RODRIGUEZ COCA quien identifica con Cedula No. Que se 1 1 222581, se encuentra matriculado(a) en el Programa Curricular de MAESTRIA EN INGENIERIA - INGENIERIA ELECTRICA, en el segundo semestre de 2012. Se expide este certificado a solicitud del interesado(a) en la ciudad de Bogota, D.C., el veintisiete (27) dias del mes de noviembre del ano dos mil doce (2012). Secretario Academico FACULTAD DE INGENIERIA BOGOTA luis» C. Cartera 30 No. 45-03, FACULTAD DE INGENIERIA, Edificio CADE. Piso 2 degrees Telefono: (57-1) 316 5191 - 316 5490 Conmutador: (57-1) 316 5000 Ext. 13371 Fax: 13377 Correo electronico: secracade fiboQ@un3! edu.co Bogota. Colombia. Sur Amenca Bogota D.C 29 de Octubre de 2013 Director de Nueva Creaciones JOSE LUIS SALAZAR LOPEZ Asunto: Dar Respuesta a su Oficio de Requerimiento Solicito que por favor cualquier notificacion que tenga me la hagan llegar al correo eilereiler@gmail.com. Ya que la pagina web www.sic.gov.cop no funciona debidamente y por ello perdi la anterior oportunidad de realizar la patente. Cordial Saludo. Este escrito lo realice con el fin de responder el Oficio de Requerimiento, Dando Pautas Exactas de donde se encuentra cada punto. OFICIO DE REQUERIMIENTOS 1. las graficas, figuras y dibujos que trata la Decision 486, debiera ser elaborados siguiendo las reglas del dibujo tecnico con tinta negra indeleble, numeradas individual y consecutivamente, y presentadas exclusivamente en papel tamano oficio por una sola cara, preferiblemente los dibujos no deberan contener rotulos, cuadros, membretes o cotas, solo los numeros de referencia para designar cada pieza los cuales deben corresponder con lo definido en la descripcion. Este primer punto se encuentra ubicado en las paginas de 8 a 11 Cada uno con sus respectivos numeros y nombres; y de la pagina 23 a 30 Este primer punto 2. Se debe presentar un capitulo descriptivo. La descripcion de la intervencion debe ser clara y completa, de manera tal que una persona versada en la materia pueda ejecutarla. Asi mismo, debiera indicar: a) el sector tecnologico al que se refiere o se aplica la invencion, b) el estado de la tecnica (lo que se conoce hasta ahora) y sus desventajas; c) el objetivo de la invencion y las ventajas de esta. En un comienzo, la descripcion debiera permitir la comprension del problema tecnico y la solucion aportada por la invencion, exponiendo las diferencias y eventuales ventajas con respecto ala tecnologia anterior, elaborando una breve descripcion de lo que contiene cada dibujo que lo acompaña. Este segundo punto se encuentra en las paginas de la 7. 3. Debe presentar un capitulo reivindicatorio precisando la materia para la cual se solicita proteccion. Las reivindicaciones deben ser claras y concisas y estar enteramente sustentadas con la descripcion. Por su estructura, se compone de: a) un preambulo, el cual sirve para situar el objeto de la invencion dentro de un contexto tecnico; y b) una parte caracteristica, que define lo que se considera novedoso y se desea proteger. Estas dos partes estan separadas por la expresion "caracterizada por" u otra equivalente. Deben definirse claramente las caracteristicas que lo distinguen de los restantes conocidos, sin describir ventajas de funcionamiento o uso, solo se debe caracterizar tecnicamente. Este Tercer punto se responde en la pagina 6 y de la 13 a la 22. 4. Por su importancia la reivindicaciones deben ir numeradas, preferiblemente por numeros arabigos, donde la reivindicacion mas importante ocupe el primer lugar, seguida de una, o varias reivindicaciones, segun sea el caso. Cuando haya lugar a dos o mas reivindicaciones independientes, estas deberan ir inmediatamente despues de aquella que les dio origen. Debe tenerse en cuenta que las reivindicaciones dependientes deben ser consistentes con la reivindicacion que les da origen. Este ultimo punto se responde de la pagina 8 a la 11 cada plano con sus respectivos numeros arabigos y nombres. Gracias por el tiempo prestado. Cordialmente CARLOS EILER RODRIGUEZ COCA Cedula de Ciudadana 11222581 GirardotCundinamarca Correo: eilereiler@gmail.com Celular: 300 5705057- Fijo: 5394841 Direccion: Cra 97 # 153-70 PROSPERIDAD 1 PARA TODOS 3/ Industria y Comercio 5 0 P E'R'I nTETi O E N~C IA OFICIO DE REQUERIMIENTOS Bogota D.C. 2020 SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO I RAO: 13-195993- -00001-000 i DEP: DIR.NUEVASCREACIONES j TRA: 3 MODaO | ACT: <130 REQUERSOUCITA FECHA: 2013-08-3011:43:47 EVE: 1 REGDEPOSITO FOUOS: 2 Doctor(a) RODRIGUEZ COCA CARLOS EILER Asunto: Radicacion: Tramite: Evento: Actuacion: Folios: Oficio: 13-195993- -00001-000 3 1 430 2 16254 Como resultado del examen de forma, realizado con fundamento en el articulo 38 de la Decision 486 de la Comision de la Comunidad Andina, aplicable a las patentes de modelo de utilidad por disposicion del articulo 85 de la misma Decision, se le comunica que: 1. Las graficas, **Machine translation:** [Source: Claim 1] *** **WARNING: OCR DATA - MAY BE INCOMPLETE** *** **Please email the Publication Number to Patbase@rws.com of any Affected text for review** *** Claims degrees N pages: 1. Description 2. Claims 3. (3 Drawings and / or pictures 4. Summary . 5.? Priority document. 6.? Translation of the priority document. 7.? Certificate of deposit of biological material if necessary. 8.? List of nucleotide and / or amino acids in digital form if necessary. 9. The final Art 12x12. 10.? Annex digital format. 11. Legal Documentation? Powers, if necessary. 12.? Document that legally proves the assignment from the inventor to the applicant or assignee. 13.? Copy of the contract of access to genetic resources or derivatives or certificate or registration number products, if any. 14.? Copy of the license or authorization traditional or certificate or registration number knowledge, if any. 15. Rate Reduction Small or sized businesses? Copy of the statement of income of the previous year, or failing idonea documentary evidence. ? Document evidence of compliance with the provisions of the law 905 of 2004. public or private universities? Copy institutional act of recognition issued by the Ministry of Education non-profit entities? Copy of current registration chamber of commerce. ? Supplementary Information Sheet. ? Other, specify 1G.? Proof of payment of the filing fee for the application. 17.? Proof of payment priority claim. 18.? Proof of payment of the fee for surplus concept of words in the publication. 19.? Proof of payment for additional vindication to 10. za Industry and Commerce Superintendency SUPPLEMENTARY INFORMATION SHEET 1 (71) TYPE OF APPLICATION NUMBER OF FILING? Invention patent Patent Utility Model Filing Date do October 29, 2013 4 (71) APPLICANT (S) 0 CORPORATE NAME LAST NAME TYPE IDENTIFICATION i. Coca Carlos Rodriguez 11222581 Eiler APPLICANT COUNTRY OF RESIDENCE DEPARTMENT 1 Colombia / Bogota ADDRESS CITY STATE Cundinamarca Cr 97B # 153-70 PHONE 3005705057 FAX E-MAIL NATIONALITY eilereiler@gmail.com Colombiana 6

(72) INVENTOR (S) LAST 6. 7. Coca Rodriguez Rodriguez Rodriguez Mahecha August 9. Coca Amortegui NAME Carlos Gil Carlos Alfonso David Leonardo Eiler Francisco Javier NATIONALITY Colombiana Colombiana Colombiana Colombiana 7 Data INVENTOR (S) ADDRESS CITY DEPARTMENT / STATE COUNTRY RESIDENCE 6. Cr97B # 153-70 Bogota Colombia Cundinamarca 7. cr 72 B # 22 A - 7 apt 90Torre 902 Bogota Cundinamarca Colombia 8 CR 72 B # 22 A -. 90Torre 7 apt 902 Bogota Cundinamarca Colombia Av 9 cr 411 EDF 30 # 45-03 Cundinamarca Bogota Colombia ofc 102 9 (30) STATEMENTS OF PRIORITY COUNTRY OF ORIGIN COUNTRY CODE NUMBER DATE (YYYY / MM / DD) 4. 5. 6. 7. 8 9. 10. In case of a natural person and lack of funds and therefore not apply the fee reduction to which the resolution refers current rates, you must sign this application under oath. 3. Annexes Natural Person Legal Person Carlos Rodriguez Coca Eiler name or denomination / name or company name Micro CU CL Pequena Otral I LJ Medium Business type identification. CCM CEL] NIT [J OtrOI Number: 1222581 Small and medium-sized public universities or private non-profit public companies CU University I copy I regislr force in I Simple Ballad of the declaration of LJ Private University Chamber of Commerce. LJ income of the year immediately preceding information sheet, default in Copy test their act of recognition Idonea documentary. supplement. Institutional II issued by the Other, specify _] Document record Ministry of Education. compliance with the provisions of Law 905 of 2004 Nationality / country of incorporation and address of the Colombian Address Carrera 97B Na holder 153-70 E-Mail elle rollar@gmail.com No. 3005705057 Fax phone number 2.BENEFICIARIO Name: Carlos Rodriguez Coca Eiler Address: Cr 97B # 153-70 Phone: £ 3,005,705,057? DC? NIT nationality or domicile: Colombian City: Bogota EC Other?? ft Industry and Commerce Space reserved for adhesive SUPERINTENDENCIA FILING DIRECTION FORM NEW CREATIONS Rate Reduction 1. Identification of the procedure [] PATENT OF INVENTION PATENT UTILITY MODEL [] examination of patentability [] Maintenance Fees Summary electric vehicle (EV1) This utility patent was intended to variously skillful people (in disability status) having a thrombosis, half body paralysis. 1. Summary: Adaptation of a vehicle (internal combustion energy) to evaluate the performance of the power, voltage, current and temperature of the batteries over time while in operation and charge status. This project aims to show the adequacy of internal combustion vehicle to run on electric power electric vehicles prototype called EC1, which was designed to carry two people weighing 85 kilograms each. It consists of a coupling connected to a transmission or gearbox electric motor, speed control and battery bank, is composed of mechanical elements which can be grouped into the following: chassis and body, suspension, steering, brakes, transmission. The tests are meant to assess the behavior of some variables that affect the operation of electric vehicles such as: voltage, current, power, torque, speed, weight, engine temperature and battery and travel autonomy, tests were designed through the which is observed, measured and analyzed the variables that are captured by sensors and transmitted to the EP, considering SAE11634 standards as standard (for energy performance). IEEE Standard 450 (for maintenance and testing lead-acid batteries) the vehicle will be instrumented with a laptop computer and an (NI USB 6210 National Instruments) data acquisition card, where the variables are received. The tests are two dynamic and static types in the first energy consumption, average speed, distance traveled, the temperature of the batteries, the average altitude of topography, and the weight is assessed. Static tests evaluate energy consumption and temperature of the battery bank. Keywords: electric vehicle, speed, battery, voltage, power, temperature, torque, autonomy travel. 1.1 technology sector to which the invention relates or applies the technology sector referenced by the utility patent are: Mechanical, electrical, electronic and environmental 1.2 State of the art electric vehicle origin dates back to the early nineteenth century. While it was hardly prototypes that now may be called the car, if they had that intention. It is the case of the Hungarian Anyos Jedlik design. 1. First electric vehicle design Jedlik anyos In the 1830s the Scotsman Robert Anderson invented the first electric vehicle; in 1835, Christopher Sibrandus Stratingh and Becker built electric vehicles at reduced scale in the Netherlands. 1867 Franz Kravogl presented a cycle of two wheels driven by electric motor. Similarly, in United States creators Braker, Edison and Studebaker trying to develop electric models based on the progress they had made the French Gaston Plante in 1865 and Camille Faure in 1881, on baterias1. Although this type of vehicle was planned efficiently, improving the electric start of Cadillac (1913) 1 vehicle for the evolution of the electric car. [Online]. Retrieved [5 May 2011] Available at: http://www.tarinua.net/posts/autos-motos/16370540/La-evolucion-del-auto-electrico.litml internal combustion remove the disadvantages of traction evidenced internal combustion and disadvantages so far had the technology of electric vehicles such as the reliability of electricity supply, the storage capacity of the batteries, in addition to the growing euphoria oil findings. For these reasons the electric car industry came to an end in 1930 until the Second World War, given the scarcity of fuel has revitalized interest in this technology. However, after the war returned to their abandon any project matters.2. • Background Since the hybrid vehicle in 1896 HJ Dowsing and L Epstein patented its approach on parallel hybridization. By this same time Ferdinand Porsche designed a gasoline engine rotating at a constant speed, feeding a dynamo to charge some electric batteries. The gasoline engine start was through the same dynamo. This is considered the first hybrid vehicle, had a range of only 64 km with batteries. I had no mechanical connection between the combustion engine and the wheels, so I did not need transmission or clutch. This prototype was first launched in April 1890 in Paris as the Lohner Porsche and 300 units were produced. By 1899 the Spanish company Compania General Cars Cars manufactured vehicles that consisted of a two-seater carriage, a van, a truck and an electric bus. The 1975 California legislation imposed on the use of a system that would reduce the exhaust of the engines to make them less harmful. Eighteen years later this measure would be welcome in Europe3. Hybrid Vehicle Types The hybrid vehicle is essentially an electric vehicle incorporating a combustion engine with which to recharge, up batteries as the energy of these is consumed. While its traction is always electric at some point the conventional combustion engine vehicle provides the additional power needed to meet the demand of speed or power, while the electrical system operates at times of low demand4. 2 Ibid. 'COSTAS Javier. (2009). History of the hybrid car: the Pioneers. [Online]. Retrieved [5 May 2011] Available at: http://www.motorpasion.com/ coclies-libridos-altemative / 'history-of-car-hihrido-los-NAVARRO pioneers, Ezequiel; COLOMER, Pau and JEREZ, Felipe. (2010). "New Challenges in automotive electronics." Spanish electronic magazine. The electric vehicle is mainly composed of a synchronous AC generator that produces electricity to charge the batteries and acts as a motor for starting the diesel engine; investors who have the function of converting the direct current from the battery into alternating current for the electric motor move and reverse alternating current into direct current generator to charge the battery. It is also used to vary the frequency of the current depending on the speed of the electric motor. The hybrid power divider can divide the parallel power from a gear that distributes the rotational traction between conventional engine and generator; this element controls the speed of the generator and functions both as a continuous transmission. This technology provides greater energy efficiency compared to conventional vehicles as it reduces fossil fuel consumption while increasing the participation of electric system. There are several brands and models that have implemented this technology, in the case of Volvo ECC instead of reciprocating engine carries a gas turbine which enables low fuel consumption and high power. Said turbine drives a generator which in turn charges the batteries which takes its power the electric motor which drives the wheels finally. When necessary, the turbine helps the electric motor so that the autonomy of 56 km passes 146 km and achieves go from 0 to 100 km / h in 13 seconds instead of the 23 required only the baterias5. Likewise, an electric motor Conditioned Volkswagen below its engine in place before the clutch and gearbox. The Golf electrohibrido and incorporate a clutch Concept 1 next to the electric group so that it can function as electric as diesel and even inertia. The ESR Mitsubishi reached 160 km by the electric motor and four cylinders gasolina6. There are different types of hybrids such as those using high-capacity capacitor to store electrical energy, which accumulate pneumatic or hydraulic pressure to gradually or storing kinetic energy freeing it. They are classified according to the configuration of the power transmission system of the engine or generator system in series or in parallel. The first uses a conventional engine coupled to a generator that produces energy for the electric motor that drives the rotation of the wheels, that is, has a single power input to the motor. The parallel system has two inputs of energy from the electric motor system and convencional7 system. • The electric vehicle electric vehicle is a vehicle that uses electric current for the traction motor. Among the advantages of this type of vehicles is the possibility of incorporating different types of renewable energy and its operation is silent and emissions. Electric vehicles are usually classified according to the energy source used to generate traction, so no vehicle batteries, electric vehicle with Direct (catenary) and VE by compressed air. The first is usually charged through a household electrical wiring or other power system. This type of car has the disadvantage of their low autonomy since all storage systems depend on battery achieved which usually ranges between 30 and 60 millas8. The VE is, in the short term, a good transportation alternative for large highly congested cities with mobility restrictions, or historic areas with speed restrictions. Likewise, this technology is projected to become one of the alternatives tip for mass transit, in the case of the city of Bogota who plans to implement mode Trolebus again and where it already operates a fleet of electricos9 taxis. Another use that have been implemented for electric traction is freight. The design of these vehicles allows an essentially horizontal, vertical or combined displacement depends on the weight to carry, the degree of slope and the level of charge in which the batteries are relatively cortos10 and tours. 7 Ibid. s Ibid. 'VELANDI A, Duran Edder Alexander. (2009) Electric Power. Energy alternative for sustainable urban transport in Colombia. Cargraphics S.A. Bogota. Prototype Disadvantages: • A disadvantage of this prototype are the batteries with which this operation because they are very heavy and the amount of energy is very small relative to a lithium battery. These are lighter and have much more energy. • The weight of the chassis, there are lighter, stronger materials the vehicle does not have this type of materials for the chassis, the chassis is in iron. • The transmission, the vehicle does not have a very efficient transmission, has only two changes back and forth, if the car had a gearbox five speeds would be more efficient. • The aerodynamics is not the most appropriate position for the wind

generates resistance and causes a higher power. • It takes an alternator to charge the auxiliary battery. • When the vehicle is subjected to a pending their autonomy may be affected. object of the invention: • Reduce the amount of CO₂ generated by internal combustion vehicles and reduce the amount of noise generated by all vehicles . • The electric car is designed for a diversely skilled person (on condition of disability) suffered a left hemiparesis diagnosis, meaning that the person suffered a stroke brain or traumatic brain injury, losing mobility left leg and left arm. The automatic electric vehicle is what makes having accelerator and brake, which can be controlled with the right leg. • To adapt a vehicle to operate electrically. Benefits! prototype: • Reduces noise pollution and produces no greenhouse gas emissions . • The energy consumption for electric vehicles is cheaper than energy consumption for internal combustion vehicle. • is inexpensive and protects the environment because no emissions and all reusable vehicle is 100 percent. • It does not occupy much space as other vehicles. • it is easy to use and secure. • The maintenance EC1 prototype is cheaper with respect to one internal combustion, because the car does not need: carburetor, injection system, exhaust, radiator, gas tank etc. . 7 II 2. Description of! invention. i 19 17 23 39 40 44 Figure 1. Prototype Vehicle Description CE1 CE1: • Dimensions: maximum height. 140.5 cm Maximal width: 1.28 cm . • General Features: Structure: iron frame Body: fiberglass Address: Mechanical Brakes: . Bands Tyres Transmission: Rin 12 '• Features: Power: 15 hp, 11 kw Maximum speed: 30 km / h Acceleration from 0 to 30 Autonomy. 23 Km 8 Figure 2. Front view of the electric vehicle CE1 1. Panoramico. 2. Support for widescreen. 3. Left rearview mirror. 4. Left, high and low light. 5. 6. Daytime running lights left turn left. 7. Front left wheel. 8. Right front tire. 9. Bumper. 10. Daytime running lights rights. 11. Right turn. 12. Right, high and low light. 13. Right rearview mirror. 2 17 Figure 3. Left side view EC1 electric vehicle. 14. Timon. 15. Handbrake. 16. Change lever. 17. Seat backrest. 18. Rollbar. 19. Spare. 20. Antenna. 21. Left rear tire. 22. Left front shock absorber. 23. Bodywork. 24. Capo. 25. Directional left side. 26. Rear bumper. Figure 4. Rear View EC1 electric vehicle. Espaldar passenger seat. Directional right back. Reverse Light right. left rear tire. Reverse Light left. Red Reflector right. Reflector left red. Stop (stop light) left. Stop (stop light) Third stop right. 37 21 August 30 September 15 41 2 Figure 5. July 16 internal view of the relevant elements of the chassis. 37. ELCON brand battery charger BATTERY CHARGER PFC-1500. 38. Transmission. 39. Motor. 40. Brakes bell. 41. Speed Control Pack 42. G4827 CONTROLLER brand of rechargeable lithium-ion batteries high voltage 43. Brake pedal. 44. Accelerator pedal. 45. Battery for auxiliary lighting system. 46. Brake fluid tank. 12 2.1 Description of the most important elements of the electric vehicle chassis EC1. 2.1.1. ELCON brand battery charger BATTERY CHARGER PFC-1500. Figure 6. ELCON. PFC-1500 Battery Charger. The feeding of an electric vehicle is done through magazines, which take energy from an available network and transmitted to the battery. The battery charger is the electronic device responsible for transforming the alternating current into direct current, whose only objective is to charge the batteries of electric vehicles. The charger was used in this prototype is brand ELCON INDUSTRIAL BATTERY CHARGER MODEL: PFC 1500. See Figure 6 . The characteristics mentioned device: | Integrated internal PFC, no pollution to the grid, minimizes disturbances in the electrical network of strong current . | Wide range of input voltage AC85V - AC265V available for worldwide requirements, convenient for fluctuations in the electrical network and export vehicles . | High efficiency, over 93 percent . | intelligent temperature compensation function in the charging process, preventing damage to the battery caused by the cancellation of debts and charges of maturity that greatly extends the service life of the battery . | Fully sealed. IP46 protection, resistant to movement and vibration of the vehicle. | Available for different types of batteries, flexible, programmable load module. Amp adjustable, equipped with interface time. See Tables 1 and 2. Table 1. SPECIFICATIONS Speculation battery charger Model Output voltage Nominal output current -Maximum 230vac 115vac -Maximum TCCH-24-40 24 V 34V 40 "TCCH-36-33 36V 51V 33a TCCH- 48-25 TCCH 25A 48V 68V 60V 85V-20A 60-20 72-16 TCCH-TCCH 72V 16A 102V 136V 96V 12A-96-12 f-120-10 CCH TCCH 10A 120V 170V 144V-203V 8A 144-08 TCCH-156 -07 TCCH 7A 156V-217V 192V 258V 6.2A TCCH 192-06 240-05 240V-340V 5A Table 2. TECHNICAL FEATURES AC input voltage range AC85V ~ AC265V AC Frequency 45 ~ 65 Hz AC input Power Factor £ 0, Efficiency at full load 98 £ 93 percent Shock and vibration resistance level SAEJ1378 Compliance with Environmental Safety standard IP65 Operating temperature -40 degrees centigrade - 55 degrees centigrade Storage temperature -40 degrees centigrade ~ 100 degrees centigrade Dimension Mechanical s 35 2 mm * 175 mm * 139 mm Net Weight 6.33kg The location of the battery charger can be seen in Figure 5 on the chassis, at No. 37. 2.1.2 Transmission. The transmission system is defined as the set of elements that have the function to get the rotation produced by the engine to the wheels of the vehicle. In the electric vehicle as clutch elements, box tree and cardan transmission changes, elements commonly used in conventional gasoline-powered vehicles were omitted. For the adjustment of the motor vehicle is installed directly to the transmission in order to reduce energy loss. This system then is composed of the electric motor and transmission Engine: the first fitness that took place is the adaptation of the electric motor to the chassis and that its shape and dimensions were different from the previous internal combustion engine. Therefore special adaptation was elaborated in the form of a disk designed around the specifications needed for the new power plant in the right space, and consequently a perfect fit and assembly will be generated directly with the transmission. While support was developed to aid the transmission remain in the proper position with the engine see picture 1,2 and 3. Photographs 1. Stand Design broadcast. 2. Photographs disk layout. Attach engine-chassis transmission and the engine right we can see in Figure 5 at No. 38 (transmission), and 39 (motor). 2.1.3 Engine: The engine used in this project is a synchronous motor that has the following characteristics: it is permanent magnet works with a three-phase input voltage. See Figure 7. Figure 7. Plan of electric motors with permanent magnets. 16 2.1.4 Speed control DRIVER brand G4827 The G4 series is the latest design of electric vehicle controller, has the smallest size in the industry for its ability to energy. This instrument is designed to control synchronous permanent magnet motors. The drivers allow through the exchange of messages with CAN is N. management system compatible batteries, this feature helps optimize the driving range and improves battery life See Figure 8. Figure 8. Controller g4827 This driver allows you to define and automatically organize the parameters of induction motors, this feature provides a configuration and fighting between the controller and motor, including a fully integrated set of cost-effective inputs and outputs to improve a wide range of vehicle requirements See Table 3. Table 3. DRIVER SPECIFICATIONS Model G4827 G4827 G4845 G4865 Nominal battery voltage 36 to 48VDC Max. 69.6 VDC operating voltage Min. operating voltage 19.3VDC Peak current (2 min) 1 275A 450A 650A Boost current (10 sec) 1 330A 540A 780A current {Cont 60 min} 1 110A 180A 260A Digital inputs 8 Analog inputs 2 (can be config. digital as) Motor temperature sensor input Yes (thermistor) contactor / solenoid outputs (2A) 3 (1-16kHz)? Yes Motor Motor UVW encoder inputs (AB) inputs Yes Sin / Cos Encoder feedback inputs Yes alt 5V supply output 10V (max. 100mA) Supported profiles CANopen DS301, DS401, DS402 Ambient operating temperature -40 degrees centigrade to 85 degrees centigrade Protection class IP66 Spudcfl Treno logic one large pore wda çtri lai and mJitnifl to VlfciOfOt 2.1.5 Rechargeable Battery Pack OPTIMA YELLOW. This is the storage form of energy in electric vehicles. Its basic operating principle based electric energy production by means of chemical reactions is in redox that occur within it. The technical data of the batteries used. See Table 4 Table 1. TECHNICAL DATA BATTERY Physical Characteristics: Plate Design High purity lead-tin alloy Wound cell configuration utilizing proprietary SPIRALCELL (R) technology . Electrolyte: Sulfuric acid, H-SO₃ Case: Polypropylene Color: Case: Light Gray Cover: "OPTIMA" Yellow Group Size: BCI 34 Standard Metric Length: Width: Height: Weight: 10 "6,875" 7,813 "42 91b 254 mm 175 mm 200 mm (height at the top of the terminals) 19.5 kq Terminal Configuration: SAE / BCI automotive Performance Data Open Circuit Voltage (fully charged): 13.1 volts Internal Resistance (fully charged): 0 0028 ohms Capacity: 55 Ah (C / 20) Reserve Capacity: BCI: 120 minutes (25 amp discharge, 80 F (26.7 degrees C), to cut-off 10.5 volts) Power: INTERNAL COMPONENTS CCA (-18 C): 765 amps MCA (BCI OX). 870 amps Recommended Charging S4Ii4m commits between accents pe "and one higher and maximum durcodn puppet ç4 plocos say it eltomntf Seorodores liter pure compressed Mont II drtcl * viir.s EBSE stop an if-kfntet Spiroclclj * 1 allows use qua rticecn you elect / di resistance oילו moyor lead m will form * or rrbiecionf "mdspvra as uM fluffy pe re mtor dfrremet Batteries: to adapt the battery bank was necessary to make a modification to the chassis on the front of the engine and for that proceeded to assemble an iron bracket welded to the chassis, which served to contain and fitting batteries so they do not remain loose and not generate a power failure or any type of accident. This support I remain installed in the lower rear of the vehicle in order to improve its center of mass and that could also later be covered by elements of body and upholstery, view pictures 4 and 5. Photographs 4. Support for battery-bottom chassis 5. Photographs battery holder. Top view 2.2 Description of the chassis. The chassis can be defined as rigid iron structure that connects all elements of the vehicle. It has among other functions withstand static and dynamic forces it produces, likewise, stable components that comprise it. It is noteworthy that also provides passenger safety as it helps protect his physical integrity in the event of a collision See Figure 9. See Photo 6. Figure 9. Photographs chassis structure 6. Chassis 2.3 Description of assembly Body: Body: The next step was to assemble the bodywork having first performed the necessary maintenance, for although the prototype deterioration 2.4 Description of auxiliary system: Auxiliary system: eventually the auxiliary system composed of light elements such as headlights, tail lights, turn signals, parking lights, whistle, steering, witnesses, etc. are installed Additionally upholstery elements were installed, view pictures 8 and 9. Photographs 8. Installation of auxiliary electrical system. Photographs 9. Installing directional and parking lights. 3. Claims Claims 1. Below are listed This vehicle was designed thinking of a diversely skilled person (on condition of disability) having a diagnosis of left hemiparesis. (V) 16 cm 25 cm 31 cm 96 cm P5040127 P5090016 P5090034 what. * 4 P6230035 P5130020 P6020019 P5120128 P6030036 P6230030 ~ L UTS FR7WCT5C 0 BO AD IS A NATIONAL UNIVERSITY FACULTY OF ENGINEERING 5JSCKETARU COLOUEBIA X * NATIONAL UNIVERSITY OF COLOMBIA SEDEBOGOTA Faculty of Engineering Academic Secretary SECRETARY OF FACULTY CERTIFY: CARLOS RODRIGUEZ COCA FILER who

identifies with Cedula No. That 1 1 222581, is registered (a) in the curriculum of Master of Engineering. - ELECTRICAL ENGINEERING, in the second half of 2012 The twenty (27) days of November, two thousand twelve (2012) This certificate is issued at the request of interested (a) in the city of Bogota, DC. Secretary Academic College of Engineering BOGOTA Luis "C. Portfolio 30 No. 45-03, Faculty of Engineering, Building CADE. Apartment 2 degrees Phone: (57-1) 316 5191-316 5490 Switch: (57-1) 316 5000 Ext 13371 Fax: 13377 Email: secracade fiboQ @ un3.1 edu.co Bogota. Colombia. South America Bogota DC October 29, 2013 Director of New Creations JOSE LUIS LOPEZ SALAZAR Subject: serving your Job Requirement please request that any notification that has made me reach eilereiler@gmail.com mail. Since the website www.sic.gov.co not working properly and therefore lost the opportunity to perform the above patent. Best Regards. This is performed by written order to meet the requirement Occupation, Giving Guidelines exact location of each point. OFFICE OF REQUIREMENTS 1. graphs, figures and drawings about the Decision 486, shall be made following the rules of technical drawing in indelible black ink, individually numbered consecutively and presented exclusively on legal paper size single-sided preferably the drawings must not contain labels, boxes, letterheads or dimensions, only reference numbers to designate each piece which must correspond as defined in the description. The first point is located on pages 8-11 Each with their respective numbers and names; and on page 23-30 2. This first point must present a descriptive chapter. The description of the intervention must be clear and complete so that a person skilled in the art to carry. Likewise, should indicate: a) the technological sector to which the invention relates or, b) applies state of the art (what is known so far) and its disadvantages; c) the purpose of the invention and the advantages of this. At first, the description should allow the technical problem and the solution provided by the invention, explaining the differences and possible advantages over prior art wing, producing a short description of what is in each drawing that accompanies it. This second point is on the pages of 7. 3. You must submit a vindicating chapter stating the matter for which protection is sought. The claims must be clear and concise and entirely supported by the description. By its structure, it comprises: a) a preamble, which serves to locate the object of the invention within a technical context; b) a characteristic part, defining what is considered novel and be protected. These two parts are separated by the expression "characterized by" or the equivalent. The characteristics that distinguish it from other known, without describing advantages of operation or use must be characterized technically only be clearly defined. The third point responds on page 6 and 13 to 22. 4. Because of its importance the claims should be numbered, preferably by Arabic numerals, where the most important vindication ranking first, followed by one or more claims, as the case. When you are in two or more independent claims, they should immediately go after that which gave rise to them. It should be noted that dependent claims should be consistent with that given in claim origin. This last point is answered page 8 through 11 each plane with their respective Arabic numerals and names. Thanks for the time given. Sincerely CARLOS RODRIGUEZ COCA EILER Citizen Identity Card GirardotCundinamarca 11222581 Email: eilereiler@gmail.com Cell: 300 5705057- Fixed: 5394841 Address: Cra 97 # 1 FOR ALL PROSPERITY 153-70 3 / Industry and Trade 5 0 P E ' OEN nTETi r'i ~ C IA OFFICE OF REQUIREMENTS Bogota DC 2020 SUPERINTENDENT OF INDUSTRY AND COMMERCE I RAO: 13-195993- -00,001 to 000 DEP: DiR.NUEVASCREACIONES j TRA: 3 MODaO | ACT: and It; 130 REQUERSOUCITA DATE: 2013-08-3011: 43: 47 EVE: 1 REGDEPOSITO FOUOS: 2 Doctor (a) CARLOS RODRIGUEZ COCA EILER Subject: Filing: Tramite: Event: Performance: Planners: Occupation: 13-195993- -00,001 to 000 3 1430 2 16254 As a result of the formal examination, conducted on the basis of Article 38 of Decision 486 of the Andean Community Commission, applicable to utility model patents by virtue of Article 85 of the same decision, it is you that: 1. The graphics

Classifications:
International (IPC 8-9): B60K17/356 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
CO7050110 U1	20140910	CO20130257247U	20131030

Priority:
CO20130257247U 20131030

Probable Assignee: RODRIGUEZ COCA CARLOS EILER
Assignee(s): (std): RODRIGUEZ COCA CARLOS EILER
Inventor(s): (std): AMORTEGUI GIL FRANCISCO JAVIER ; RODRIGUEZ COCA CARLOS EILER ; RODRIGUEZ COCA DAVID LEONARDO ; RODRIGUEZ MAHECHA CARLOS ALFONSO

4) Family number: 44337956 (BRPI0705543A) © PatBase

Title: transmissao diferencial com eixo de tres pontas controlada por amortecimento eletrico Differential transmission with three-axis tips controlled by electric damping (Machine translation)

Abstract: Source: BRPI0705543A [PT] :0405545-0 RESUMO "TRANSMISSAO DIFERENCIAL COM EIXO DE TRES PONTAS CONTROLADA POR AMORTECIMENTO ELETRICO" Descreve-se uma transmissao diferencial com eixo 5 de tres pontas controlada por amortecimento eletrico incluindo uma instalacao eletro-mecanica rotativa disposta entre ambas extremidades de saida diferenciais para criar efeitos de geracao de potencia de vortice ou efeitos de gerador na operacao diferencial para produzir potencia de saida para produzir 10 amortecimento contra-torque; ou quando ha duas instalacoes eletro- mecanicas rotativas adaptadas respectivamente a ambas extremidades de saida diferenciais, a potencia mais alta gerado pela instalacao eletro-mecanica rotativa com voltagem de geracao de potencia mais baixa, para regular e controlar a relacao de torque entre ambas extremidades de saida diferenciais. **Machine translation:** : 0405545-0 ABSTRACT "DIFFERENTIAL TRANSMISSION WITH THREE TIPS SHAFT CONTROLLED DAMPING ELECTRIC" Describes is a differential transmission with shaft 5 of three tips controlled by electric damping including a rotating electro-mechanical installation arranged between both output ends differential generation to create effects vortex of power or effects generator in differential operation to produce output power to produce 10 damping counter-torque; or when there are two installations electro-mechanical rotating adapted respectively to both ends of output differentials, the highest power generated by the rotating electro-mechanical installation with the highest power of generation voltage drives the other rotary electro-mechanical installation with 15. Voltage generation of lower power, to regulate and control the relationship of torque between both ends of differential output.

Classifications:
International (IPC 8-9): B60K17/16 (Advanced/Invention);
B60K17/16 (Core/Invention)

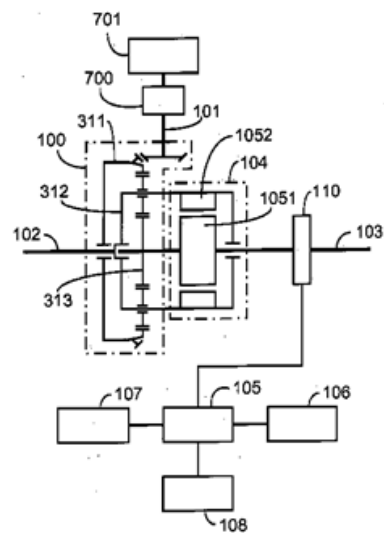


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
BRPI0705543 A2	20100126	BR2007PI05543	20071126

Priority:

BR2007PI05543 20071126

Probable Assignee:

YANG TAI HER

Assignee(s): (std):

YANG TAI HER

Assignee(s):

TAI HER YANG

Inventor(s): (std):

YANG TAI HER

Inventor(s):

TAI HER YANG

5) Family number: 29589142 (US6297575B)

© PatBase

Title: Combined power driven device having a three-layered electromechanical structure with common structures

Abstract: A combined power driven device is made up of three layers, each of the three layers forming an electromechanical structure such as a stator or an armature. One of the three layers serves as a common magnetic structure for interaction with the electromechanical structures formed by the other two layers and the three layers may be mechanically coupled with each other, a load, and/or an active power source to provide either generator or motor functions, or a combination of generator and motor functions.

Classifications:

International (IPC 8-9): H02K1/00 H02K16/00 H02K51/00 H02K7/00 (Advanced/Invention);

H02K16/00 H02K51/00 H02K7/00 (Core/Invention)

International (IPC 1-7): H02K1/00 H02K1/22 H02K16/00 H02K47/04 H02K51/00 H02K7/00 H02K7/10 H02K7/20

CPC: B60K2006/262 H02K51/00

European: H02K51/00 L60K6/26C

US: 290/6 310/100 310/112 310/113 310/116 310/118 310/266 310/96

U.S. Patent Oct. 2, 2001 Sheet 1 of 19 US 6,297,575 B1

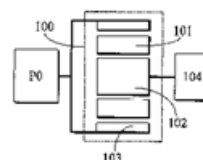


FIG. 1

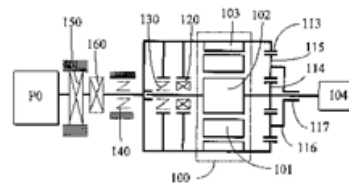


FIG. 2

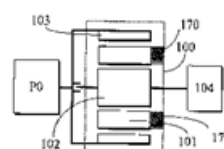


FIG. 3

Family:

Publication number	Publication date	Application number	Application date
CA2230956 AA	19990903	CA19982230956	19980303
EP0798844 A1	19971001	EP19960302184	19960328
JP9275673 A2	19971021	JP19960111858	19960328
US6297575 BA	20011002	US19980033600	19980303

Priority:

EP19960302184 19960328 JP19960111858 19960328 CA19982230956 19980303
US19980033600 19980303

Probable Assignee: TAIHAA YAN

Assignee(s): (std): TAIHAA YAN ; YANG TAI HER

Inventor(s): (std): YANG TAI HER ; TAI HAA YAN

Agent(s): GOWLING LAFLEUR HENDERSON LLP

Designated states: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

6) Family number: 62064618 (WO16050251A1)

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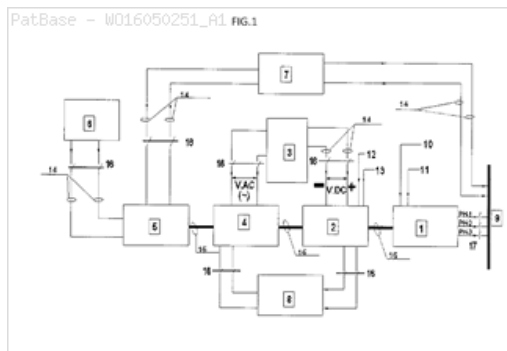
Title: RAMEZ MICRO POWER STATION

Abstract: Ramez Micro Power Station is a device for generating permanent electric power energy with different capacities without any fuel, that it's works for ever. It's characterized by it's simplicity that it can be put at the entrance of the building and be connected to the main distribution panel and provide it with electricity, then the main distribution panel supply power to the sub panels like the traditional power distribution inside the building. It can be a substitute for all other systems of generating electricity, and that there is no need for large transmission power system with it's drawbacks that each building or each area will have it's device that provide it with electricity.

Classifications:

International (IPC 8-9): H02K53/00 (Advanced/Invention)

CPC: H02K53/00

**Family:**

Publication number	Publication date	Application number	Application date
AU2014407993 A1	20160407	AU20140407993	20140930
AU2014407993 AA	20160407	AU20140407993	20140930
WO16050251 A1	20160407	WO2014EG00027	20140930

Priority:

WO2014EG00027 20140930

Probable Assignee: ZAKI RAMEZ

Assignee(s): (std): ZAKI RAMEZ ; ZAKI RAMEZ MAGDY ZAREEF

Inventor(s): (std): ZAKI RAMEZ MAGDY ZAREEF

Agent(s): ZAREEF ZAKI RAMEZ MAGDY MR

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

7) Family number: 14340245 (FR2775860A)

© PatBase

Title: Multiple media high definition television reception system

Abstract: The system integrates every possible type of TV reception and has an antenna with selectable position and polarisation to allow use on boats aircraft and cars. The integrated remote control allows selection of the language received.

Classifications:

International (IPC 8-9): H04N5/782 H04N7/10 H04N7/14

H04N7/173 (Advanced/Invention);

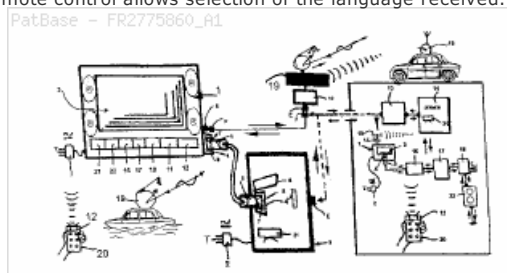
H04N5/44 (Advanced/Non-invention)

International (IPC 1-7): H04N5/00

CPC: H04N5/44 H04N5/782 H04N7/10 H04N7/147 H04N7/17309

European: H04N5/782 H04N7/10 H04N7/14A3 H04N7/173B

T04N5/44



Family:

Publication number	Publication date	Application number	Application date
FR2775860 A1	19990910	FR19980002517	19980303

Priority:

FR19980002517 19980303

Probable Assignee:

MIKRUT ANTOINE

Assignee(s): (std):

MIKRUT ANTOINE

Inventor(s): (std):

MIKRUT ANTOINE

8) Family number: 11222457 (WO9839915A1)

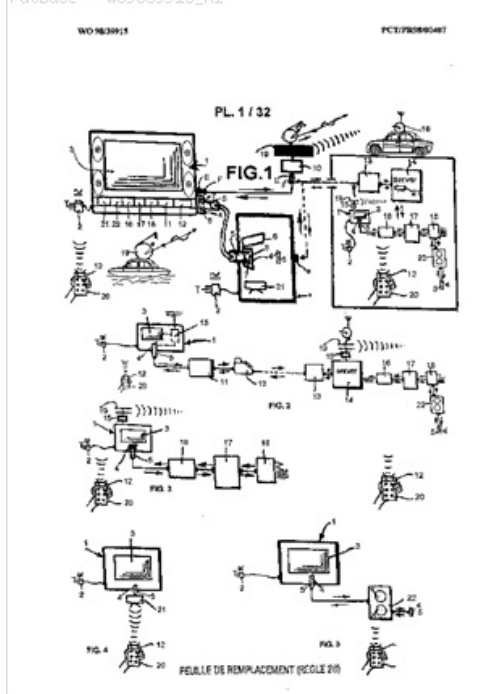
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Title: HIGH DEFINITION/VERY HIGH DEFINITION SCREEN TELEVISION RECEIVER SET WITH MEMORY AND MIKROTELEC TELEVISION ENVIRONMENT SYSTEM

Abstract: The invention concerns assemblies consisting of colour television receiver sets designed for world intercommunication and with multiple functions and/or other audio-visual appliances equipped with high definition and/or very high definition digital and/or analog television screen with memory combined with audio-visual appliances equipped with TVCOM wave transmitters and/or receivers and with MIKROTELEC technology television environment systems designed for UNICOM. The inventive concepts and inventions are characterised in that they also include the complex MIKROTELEC technology concerning the additions or novel creations and improvements of the inventions described by Antoine MIKRUT in the French patents n 7725774 publication 2 401 589 and n 8712986 publication 2 620 888 applicable in particular in all state-of-the-art industries and fields and used in all places of recreation, residence as well as in vehicles on land, at sea and in the air. Said inventions provides the solution to problems encountered by users, in front of their (very high definition) colour television receiver set, equipped with MIKROTELEC wave-transceivers with their pre-programmed and/or programmable software in micromodules or microcomputers with remote control functions, and also equipped with television environment multipin connections connected to the audio-visual appliances themselves provided with MIKROTELEC wave-transceivers...

Classifications:**International (IPC 8-9):** H04N11/18 H04N5/44 (Advanced/Invention); H04N11/18 (Advanced/Non-invention)**International (IPC 1-7):** H04N5/00 H04N5/222 H04N5/44 H04N7/00 H04N9/64**CPC:** H04N5/44 H04N11/18**European:** H04N5/44 T04N11/18

PatBase - WO9839915_A1

**Family:**

Publication number	Publication date	Application number	Application date
AU199868373 A1	19980922	AU19980068373	19980302
EP1042911 A1	20001011	EP19980913809	19980302
FR2760306 A1	19980904	FR19970002484	19970303
FR2760306 B1	20030711	FR19970002484	19970303
WO9839915 A1	19980911	WO1998FR00407	19980302

Priority:

FR19970002484 19970303 WO1998FR00407 19980302

Probable Assignee: MIKRUT ANTOINE**Assignee(s): (std):** MIKRUT ANTOINE**Assignee(s):** ANTOINE MIKRUT**Inventor(s): (std):** MIKRUT ANTOINE**Inventor(s):** ANTOINE MIKRUT

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW

9) Family number: 59629886 (US2015188400A)

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Title: MAGNETIC FLYWHEEL INDUCTION ENGINE-MOTOR-GENERATOR

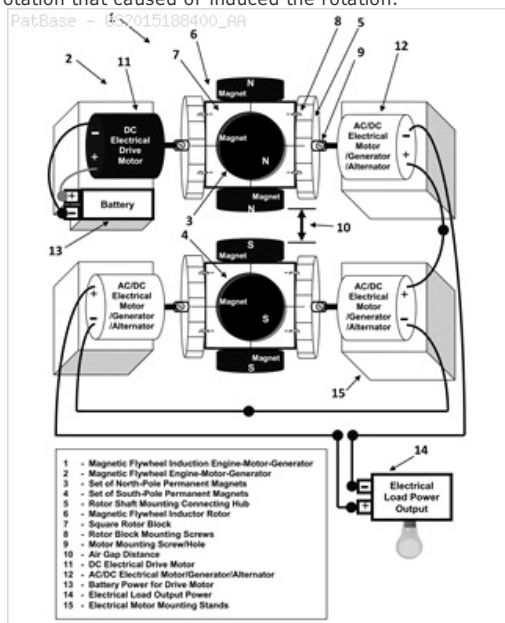
Abstract: This invented apparatus, and process of "Magnetic Induction" combines a plurality of electrical motors, flywheel kinetic energy, and a geometrical arrangement of permanent magnets in interaction, such as to recover and harvest a percentage, of the wasted rotational energy generated by powering a motor with a shaft. The invention is a geometric arrangement, where one system of north-pole facing permanent magnet system, rotates about a shaft axis, separated by a fixed air gap distance, from a second, south-pole facing, permanent magnet system. When the apparatus, and the first "north-pole" permanent magnet magnetic system, is motor powered into rotation, relative to a second unpowered "south-pole" permanent magnet system; "Magnetic Induction" occurs in the second adjacent unpowered south-pole permanent magnet system, which rotates in the opposite direction, to the initial rotation that caused or induced the rotation.

Classifications:

International (IPC 8-9): H02K1/02 H02K47/14 H02K49/10
H02K7/02 (Advanced/Invention)

CPC: Y10S74/09 H02K7/025 H02K53/00

US: 310/74 74/DIG.9

**Family:**

Publication number	Publication date	Application number	Application date
US2015188400 AA	20150702	US20130145292	20131231

Priority:

US20130145292 20131231

Probable Assignee: KEMP ROBERT LOUIS

Assignee(s): (std): KEMP ROBERT LOUIS ; KEMP THOMAS EDWARD

Inventor(s): (std): KEMP ROBERT LOUIS ; KEMP THOMAS EDWARD

10) Family number: 43825415 (US2010270883A)

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Title: UNINTERRUPTED BATTERY OPERATED GENERATOR SYSTEM

Abstract: The uninterrupted battery operated generator system 50 of the present invention generates electrical and kinetic energy without using fossil fuel or external energy sources to recharge. It uses two sets of energy storage means 11, 12 alternatively, to power a rotational torque generating means 15. The rotational torque generating means 15 drives the rotational movement of a flywheel 31 coupled to gyroscopes 35, which store and multiply kinetic energy. An alternator 16 is driven by the rotational torque generating means to convert this kinetic energy into electrical energy. The flywheel 31 can also be fitted with a rail 42 engaging with a transmission roller 43 to transfer the kinetic energy via a transmission shaft 44 to a receiving system such as a vehicular or machinery transmission system. Some of the electrical energy generated can be used to recharge the energy storage means 11, 12, which have a charging time shorter than the operating time. A controller 10 connected to load sensor 19, voltage sensor 13, and frequency sensor 14 controls the power supply to the rotational torque generating means 15, thereby enhancing the energy efficiency, thus creating an uninterrupted battery operated generator system 50.

Classifications:

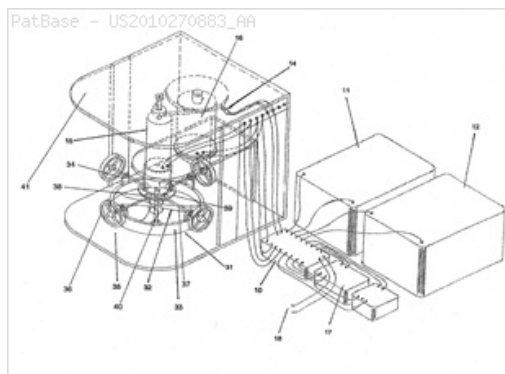
International (IPC 8-9): F03G3/08 F03G7/10 G01C19/00 H02J15/00
H02J17/00 H02J3/06 H02J3/38 H02J7/00 H02J7/14 H02J9/04
H02J9/06 H02K26/00 H02K47/00 H02K47/14 H02K51/00 H02K53/00
H02K7/18 H02N11/00 H02P9/00 (Advanced/Invention);
H02K53/00 (Advanced/Non-invention);
H02J3/38 H02J9/04 H02K53/00 (Core/Invention);
F03G7/10 (Core/Non-invention)

International (IPC 1-7): H02K53/00

CPC: H02J7/0013 H02J9/066 H02K53/00

European: H02K53/00 T02J7/00C T02J9/06D

US: 310/113 415/916

**Family:**

Publication number	Publication date	Application number	Application date
AU2009202978 AA	20101111	AU20090202978	20090723
CN101873056 A	20101027	CN200910162042	20090810
EA200901595 A1	20101029	EA20090001595	20091222
EP2109210 A2	20091014	EP20090009724	20090728

EP2109210 A3	20091021	EP20090009724	20090728
IN01680MU2009 A	20101224	IN2009MU01680	20090721
JP2010259311 A2	20101111	JP20090193193	20090824
KR20100117491 A	20101103	KR20090090613	20090924
SG166037 A1	20101129	SG20090054198	20090813
TW201038822 A	20101101	TW20090126520	20090806
US2010270883 AA	20101028	US20090509510	20090727
WO09134115 A2	20091105	WO2009MY00059	20090428
WO09134115 A3	20100218	WO2009MY00059	20090428
WO10123343 A1	20101028	WO2010MY00064	20100423
WO10147450 A1	20101223	WO2009MY00101	20090724

Priority:

MY20080001331 20080429 MY20090000670 20090424 MY20090001670 20090424
MY20090002496 20090617 MY20090000496 20090627 MY20090002496 20090627
MY20090004552 20091029

Probable Assignee: GREEN TECH HOLDINGS SDN BHD

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Assignee(s): GREEN TECH HOLDINGS SDN BHD MY

Inventor(s): (std): TEOH CHIN SONG ; TEOH DE ZHENG ; ZHENG TEOH DE ; TEOH CHIN SEONG ; SONG TEOH CHIN

Inventor(s): DE ZHENG TEOH ; CHIN SONG TEOH

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; BOYCE CONOR; SUZANNAH K SUNDBY SMITH GAMBRELL AND RUSSEL LLP; HANN YIP JIUN; LOK CHOON HONG

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

11) Family number: 31718270 (WO05020412A1)

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Title: FIELD FORCE MACHINE

Abstract: The invention relates to a field force machine (FKM) consisting of a plurality of functional units having different functional mechanisms and ranges of applications. Said functional units include a field force generator (FKG) consisting of field batteries (FB), e.g. two permanent magnets (PM) in an antiparallel position, and a field modulator (FM). Said field force generator uses the field modulator to produce mechanical work in the cycle of the machine, said modulator controlling the field of the field batteries, between the state of equilibrium and the state of non-equilibrium. According to the invention, the field force generator (FKG) refers to the basic principle of a magnetic capacitor and the magnetic capacitance control thereof. As, with field force generators, the energy is permanently generated in an emission-free manner from the field batteries, controlled by the very small quantity of energy of the field force modulator, analogous to the control of an electronic transistor, said field force machine system can universally change the energy infrastructure in a sustained manner.

Classifications:

International (IPC 8-9): H02K53/00 H02K57/00 (Advanced/Invention);

H02K53/00 H02K57/00 (Core/Invention);

H02K (Subclass/Invention)

International (IPC 1-7): H02K53/00 H02K57/00

CPC: H02K99/10 H02K53/00

European: H02K53/00 H02K57/00B

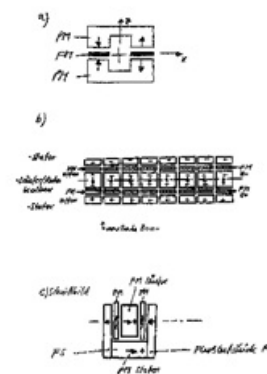
PatBase - WO05020412_A1

WO 2005020412

8/123

IPC: H02K53/00

Fig. 1.1 a,b: Longitudinalkraftmaschinen



Family:

Publication number	Publication date	Application number	Application date
CN101084619 A	20071205	CN200480029876	20040812
EP1676353 A1	20060705	EP20040764052	20040812
IL173662 A0	20060705	IL20040173662	20040812
IN00162MN2006 A	20090529	IN2006MN00162	20060210
JP2007502099 T2	20070201	JP20060522988T	20040812
WO05020412 A1	20050303	WO2004EP09051	20040812

Priority:

DE20031036975 20030812 WO2004EP09051 20040812

Probable Assignee: HEINZ VOLKER WENZ**Assignee(s):** (std): HEINZ VOLKER WENZ ; VOLKER WENZ HEINZ ; WENZ HEINZ VOLKER**Inventor(s):** (std): VOLKER WENZ HEINZ ; WENZ HEINZ VOLKER**Inventor(s):** WENZ HEINZ**Designated states:** AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW**12) Family number: 21665933 (FR1516085A)**

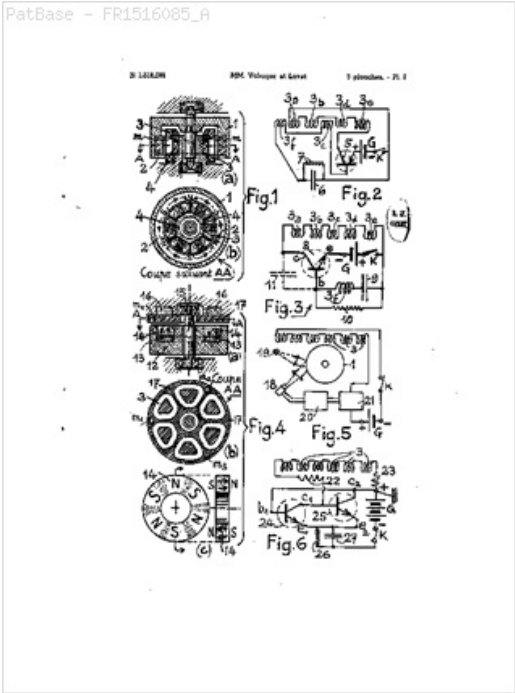
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Title: PERFECTIONNEMENTS AUX MOTEURS A COURANT CONTINU SANS COLLECTEUR, ET A CERTAINS DISPOSITIFS QUI LES UTILISENT IMPROVEMENTS TO ENGINES WITHOUT CURRENT COLLECTOR AND CERTAIN DEVICES THAT USE THEM (Machine translation)

Abstract: Source: FR1516085A [FR] [Source: Claim 1] RESUME La presente invention a pour objet des perfectionnements apportés aux machines électriques tour nantes, essentiellement aux moteurs a courant continu dans lesquels le collecteur usuel est remplacé par un dispositif électronique sans contact distribuant des impulsions ou des courants alternatifs dans au moins un enroulement statorique agissant sur un rotor pourvu de pôles magnétiques permanents. Des associations de moyens améliorées permettent d'élever la vitesse de rotation, donc la puissance de ces moteurs, et aussi l'énergie cinétique emmagasinée dans leur rotor. Ces moyens ont aussi pour effet de synchroniser le moteur, de réduire les pertes d'énergie et d'accroître sa fiabilité. Ils s'appliquent avantageusement à divers instruments et appareils industriels, notamment aux gyroscopes et aux gyro mètres, ainsi qu'aux servomoteurs d'installations automatiques. La demande porte en particulier sur les dispositions ou dispositifs suivants, considérés séparément ou en combinaison 1 Moteur selon l'invention comportant un robuste volant de forte densité dans lequel est encastré un aimant annulaire présentant sur sa surface cylindrique intérieure une série de pôles magnétiques alternes équidistants qui défilent devant des bobines-galettes à axes radiaux situées autour d'un noyau en matière magnétique douce de résistivité élevée, des moyens auxiliaires étant prévus pour amener le rotor au repos dans des positions angulaires favorisant le démarrage automatique sous l'influence d'une première impulsion de courant provenant de la charge ou de la décharge rapide d'un condensateur. 2 Moteur comportant un volant de grande inertie dans lequel est encastré un aimant annulaire présentant une série de pôles magnétiques alternes et équidistants sur une face frontale en forme de couronne concentrique à l'arbre, lesdits pôles se déplaçant très rapidement à faible distance d'un stator normal à l'arbre, ce stator étant formé par une plaque mince en matière isolante dans laquelle sont noyées des bobines-galettes parcourues par un courant intermittent distribué par au moins un transistor, ou tout autre amplificateur à semi-conducteur. 3 Moteur comportant un volant dans lequel est encastré un aimant annulaire présentant sur sa surface cylindrique extérieure une série de pôles alternes et équidistants, lesdits pôles défilant devant au moins deux bobines-galettes cintrées, l'une engendrant un signal de déclenchement, l'autre produisant un couple moteur provenant du passage d'un courant intermittent distribué par au moins un transistor. 4 Moteur comportant un volant en forme de poulie dans lequel sont encastrés latéralement deux aimants annulaires à aimantation multipolaire tournant entre deux stators plats disposés normalement à l'arbre. 5 Moteur comportant un rotor en forme d'hélice comportant deux aimants annulaires parallèles, entre lesquels est disposé un stator plat et mince renfermant au moins un enroulement moteur qui comporte plusieurs faisceaux de conducteurs actifs disposés selon des rayons et passant simultanément devant les pôles du rotor. 6 Moteur magnétoélectrique selon 1 et 3 mais comportant un rotor muni d'épanouissements polaires périphériques alternes, obtenus au moyen de deux joues en acier prolongées par des bras pliés à l'équerre entourant un aimant bipolaire en forme de noyau cylindrique concentrique à l'arbre, cet aimant étant entouré par une frette en métal non magnétique de grande tenacité. 7 Moteur puissant à faible entrefer radial, comportant en combinaison a. Un rotor renfermant au moins un aimant anisotrope dont les lignes de force internes sont parallèles à l'arbre, ledit rotor étant muni de joues d'acier avec prolongements polaires imbriqués, comme l'indique la figure 20; b. Un stator extérieur feuilleté, de forme annulaire, en toiles douces isolées, ce stator étant au moins pourvu d'enroulements moteurs biphasés ou triphasés logés dans des encoches de préférence fermées; c. Un dispositif de commutation par jonction de semi-conducteurs à conductibilité commandée (par exemple à thyristors munis d'électrode de commande à la fermeture et à l'ouverture), ce dispositif assurant l'alimentation des enroulements moteurs polyphasés par la libération opportune d'émissions de courant continu, coupées ou inversées à tour de rôle au moyen de capteurs sensibles à la position angulaire du rotor (de préférence par des capteurs à induction constitués par des enroulements polyphasés fixes devant lesquels défilent des pièces pour le tement polarisées solitaires du rotor); d. Des ailettes entraînées par le rotor, assurant au moins la ventilation du stator. 8. Moteur puissant à faibles entrefers plans, du genre de ceux des figures 12 et 18, comportant un rotor avec, sur ses côtes en forme de couronnes, une rangée de faces polaires alternées, ledit rotor étant disposé entre deux stators annulaires encochés latéralement, des enroulements polyphasés capteurs et moteurs étant étages dans les encoches, la distribution des courants étant assurée comme dans le moteur décrit en 7 ci-dessus. 9 Rotor de moteur sans collecteur dont la rotation est synchronisée sur un étalon de fréquence, utilisable notamment dans un gyromètre. 10 Gyromètre dont l'élément gyroscopique est monté sans pivotage, sa rotation étant détectée par un capteur sensible du type inductif par exemple. 11 Aubes sur le rotor, plus spécialement radiales, -faisant du rotor un moto-compresseur pouvant être alors monté sur paliers à fluide gazeux, d'autant plus avantageusement qu'il doit tourner très vite. 12 Air comprimé ainsi produit, servant à l'érection des gyroscopes et à l'alimentation de paliers hydrostatiques à air. 13 Electro-compresseurs ainsi constitués utilisables dans les servomécanismes, les calculateurs, et les codeurs pneumatiques, analogiques ou digitaux. 140 Générateurs de courant électrique mettant en œuvre les dispositions indiquées, notamment dans lesquels le couple moteur est fourni par une turbine analogue à celle de l'électro-compresseur qui fonctionne alors- en sens inverse. 15 Rotor suivant 9; servant à actionner des servomécanismes par l'intermédiaire d'embrayages mis en action par le signal d'asservissement. 16 Rotor séparé du stator par une paroi mince, étanche, et non magnétique, ce qui permet de mettre les enroulements à l'abri du fluide dans lequel tournent les aimants, et de constituer facilement une pompe immergée. 17 Petits moteurs selon 1 à 8, alimentés par piles ou batteries et permettant de rendre autonomes très facilement des appareils portatifs tels que camera, magnétophones, aspirateurs ou souffleurs d'air, des jouets, des dispositifs qui ne peuvent être branchés sur un réseau électrique, tels qu'appareils de mesure et de télémessure, programmeurs. 18 Moteurs plus puissants, selon 6 à 8 de préférence, servant à propulser des véhicules possédant un générateur d'électricité autonome, par exemple une pile à gaz. 19 Moteurs de servitude, selon 1 à 9, placés dans un véhicule, le cas échéant un satellite, et actionnés par un générateur atomique. **Machine translation:** [Source: Claim 1] SUMMARY The present invention relates to mal- perfection bringest Nantes to turn electrical machinery, mainly for motors DC where the common manifold is replaced instead by an electronic contactless device distributing pulses or alternative currents in at least one stator winding acting on a rotor provided with magnetic poles permanent. Associations provide improved means of raising the speed, so the power of these engines, and also the kinetic energy emmagasined in their rotor. These means also have the effect of synchronizing the engine, reduce the energy loss and increase its reliability. They are advantageously applied to various industrial instruments and devices, including gyroscopes and gyro meters, as well as actuators for automatic installations. The application in particular on the following provisions or devices, regarded separately or in combination 1 engine of the invention comprising a robust high density of flying into which fits a ring magnet presenting on its inner cylindrical surface a series of magnetic poles equidistant alternate marching past pancakes-coils has radial axes LOCATED around a core of soft magnetic material of resistivity high, auxiliary means being pre seen to cause the rotor to rest in angular positions favoring the automatic startup under the influence a première pulse of current from the load or rapid discharge of a capacitor. 2 engine with a flywheel great inertia in which a ring magnet is flush presenting a series of magnetic poles alternate and equidistant on a front face shaped crown concentric to the shaft, said poles moving very fast a short distance of normal stator has the shaft, stator being formed by a thin plate of insulating material in which are embedded coil-wafer covered by an intermittent stream

distributed by at least one transistor, or other semiconductor amplifier. 3 engine comprising a flywheel in which is embedded an annular magnet having on its outer cylindrical face on a series of poles alter nes and equidistant, said poles passing in front of at least two coils CURVED-cakes, one generating a trigger signal, the other pro ducing a motor torque from the passage of an intermittent stream distributed by at least one transistor. 4 engine with a wheel-shaped block in which are embedded laterally two annular magnets turn a multipolar magnetization ing between two stators dishes normally prepared to the tree. 5 motor comprising a rotor shaped hal tere comprising two annular magnets parallel, between which is arranged a thin flat stator including at least one driving winding comprising several active conductor bundles arranged in rays and passing simultaneously to the poles of rotor. 6 Motor mechanism according @ 1 and 3 but having a rotor provided with pole shoes peripherals alternate, obtained by means of two steel cheeks prolonged by arm folded at right angles surrounding a bipolar magnet shaped concentric cylindrical core has the shaft, said magnet being surrounded by a non-magnetic metal hoop of high tenacity. 7 Powerful has small radial gap, comprising in combination a. A rotor having at least one magnet ani sotrope whose internal lines of force are paral Leles to the shaft, said rotor being provided with steel cheeks interwoven with polar extensions as dique in Figure 20; b. An external stator puff of annu lar form, sweet toles isolated, this stator being provided with at least two-phase motors or three-phase windings lodges in notches preferably fermees; c. A semiconductor junction by switching device CONTROLLED CONDUCTIVITY (eg thyristors has to electrode fitted com application has closed and open), this provision tif providing power the motors polyphase by the timely release of DC emission, cut or inverted role ride through sensitive sensors has the angular position of the rotor (preferably by sensors induction constitutes- by fixed poly phase windings before whom parade of polarized integral pieces for ment the rotor); d. Fins entrained by the rotor, ensuring at least the stator ventilation..81 Powerful motor has small air gaps plans of the kind of Figures 12 and 18, comprising a rotor on its ratings shaped crowns, a row of alternating pole faces, said rotor being disposed between two annular stators enco tasks laterally, windings polyphase motors and sensors floors being in the slots, the current distribution as having been satisfied in the engine described in 7 above. 9 brushless motor rotor whose rota tion is synchronized to a frequency standard, used in particular in a gyrometer. 10 gyro dcnt the gyroscopic element is mounted without pivoting, rotation is detected by a sensor of the inductive type, for example. 11 blades on the rotor,, more radial specially, -faisant motor a motor-compressor can then be mounted on bearings a gaseous fluid, especially advantageously it should run very fast. 12 Compressed air thus produced has used the erec tion gyroscopes and power hydrostatic bearings has air. 13 Electro-compressor so constituted utili sands in the servos, calculators, and tires encoders, analog or digi rates. 140 Generators of electric current implementing provisions as are specified, in particular in which the engine torque is provided by a turbine similar to that of the electro-compressor then- works in reverse. 15 rotor 9; serving to actuate the servo with the assistance of clutches activated by the control signal. 16 rotor separated from the stator by a thin wall, waterproof, not magnetic, thereby putting the windings in the shelter of the fluid in which the magnets rotate, and easily form a immergee pump. 17 Small motors to 1 to 8, Food once by cells or batteries and to make very easily autonomous portable devices such as camera, tape recorders, vacuum cleaners and air blowers, toys, devices that can not be branches on a power grid, such as instruments and telemetry, programmers. 18 More powerful engines, according 6 to 8 preferably, serving to propel vehicles posse- ing a generator of autonomous electricity, for example a battery gas. 19 Engines of bondage as 1 to 9, these pla in a vehicle, possibly a satellite and sets in action by an atomic generator.

Classifications:
International (IPC 8-9): G04C3/16 H02K29/00 H02K29/10 H02K29/12 (Advanced/Invention); G04C3/00 H02K29/00 H02K29/06 (Core/Invention)
International (IPC 1-7): G04C3/16 H02K23/62 H02K29/02
CPC: G04C3/16 H02K29/10 H02K29/12
European: G04C3/16 H02K29/00 H02K29/10 H02K29/12



Family:

Publication number	Publication date	Application number	Application date
FR1516085 A	19680308	FR19670090287	19670106

Priority:

FR19670090287 19670106

Inventor(s): (std): VALROGER PIERRE ALBERT MARIE D ; LAVET MARIUS
Inventor(s): VALROGER PIERRE ALBERT MARIE DE

13) Family number: 62536649 (US2017259764A)

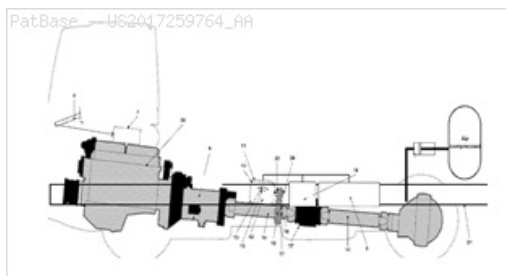
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Title: ENERGY HARVESTING DEVICE FOR A TRANSPORT VEHICLE

Abstract: An energy harvesting device for a transport vehicle comprising an electric converter circuit and a power take-off unit is disclosed. The electric converter circuit comprises: an electric energy storage; a first DC bus; an electric generator connected to the first DC bus through an electronic brake controller; a second DC bus connected to the first DC bus through a DC/DC converter, and an inverter connected to the second DC bus and having an output connected to the electrical load of the energy harvesting device. The power take-off unit comprises: a rotatable pivot plate for coupling to the vehicle chassis and supporting the electric generator; an electric generator pulley coupled to the electric generator; a shaft pulley; a shaft attachment for attaching the shaft pulley to the vehicle driveline shaft; and a belt connecting the electric generator pulley and the shaft pulley.

Classifications:

International (IPC 8-9): B60K17/28 B60L8/00 B60R16/033 H02J3/38 H02S40/38 (Advanced/Invention)
CPC: Y02T10/7083 B60R16/033 B60K17/28 H02J3/383 H02S40/38 B60L8/003



Family:

Publication number	Publication date	Application number	Application date
EP3224080 A1	20171004	EP20150813105	20151125
EP3224080 B1	20181219	EP20150813105	20151125
US2017259764 AA	20170914	US20150529598	20151125
WO16084017 A1	20160602	WO20151B59124	20151125

Priority:

PT20140108060 20141125 WO20151B59124 20151125

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

14) Family number: 59693660 (WO15101687A1)

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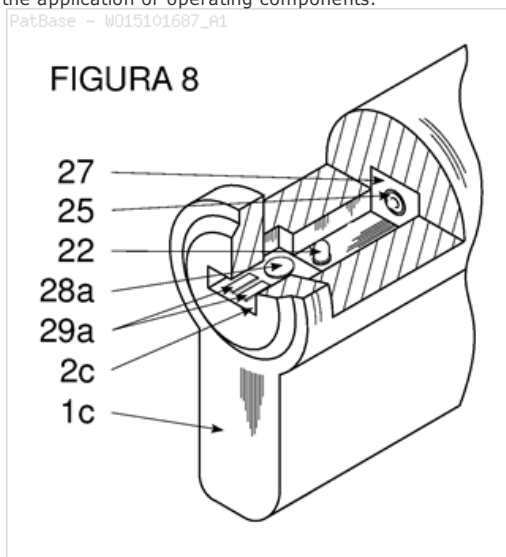
Title: CUSTOMISABLE ELECTRONIC CRYPTOGRAPHIC DEVICE

Abstract: The invention relates to a customisable electronic cryptographic device with a variable code, comprising: at least one combinatorial element - image, magnitude, energy, wave, force, movement, property, material, connection, datum, position, orientation, order, rhythm, presence, duration, pulse or interval - which integrates the code; at least one application component - emitter, transmitter, transformer, reproducer, encoder, amplifier, inhibitor or cancelling element, retraction, reflection or decomposition means, projector, device for generating, recording, reconstructing or reproducing three-dimensional or pseudo-three-dimensional images, screen, filter, motor, combinatorial commutator, electromagnet, container or receptacle - which acts as a component for generating or applying said combinatorial element; and at least one operating component acting as a verifier of said combinatorial element - detector, sensor, transducer, scanner, receiver or decoder; the determining parameters in turn being able to set the actuation of the application or operating components.

Classifications:

International (IPC 8-9): H04L9/00 (Advanced/Invention)

CPC: H04L9/00 G07C9/00174 G07C2009/00785 G07C2009/00952



Family:

Publication number	Publication date	Application number	Application date
WO15101687 A1	20150709	WO2014ES70932	20141218

Priority:

ES20130031934 20131230

Probable Assignee: IGLESIAS ROSADO PEDRO JOSE

Assignee(s): (std): IGLESIAS ROSADO PEDRO JOSE

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Agent(s): BARTRINA DIAZ JOSE MARIA

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

15) Family number: 3522436 (FR2350704A)

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Title: ELECTRIC ACCUMULATOR WITH HIGH ENERGY DENSITY AND RAPID CHARGE - UTILISES DECELERATION ENERGY OF VEHICLES ON LAND, SEA AND IN THE AIR

Abstract: The accumulator is combined with an electric traction vehicle in a system which provide sufficient power for the vehicle's propulsion, and recuperates the kinetic energy (E) available during deceleration and braking by using a "speed holder." The max. amt. of energy (E) can be recovered, even, if the vehicle is travelling below 3 ms. Energy (E) can be recovered by feeding it directly to an accumulator, or to a generator of hydrogen and oxygen. The system includes switching semiconductor elements which connect the vehicle traction motor windings in parallel or in series; and the air gap is automatically adjusted during deceleration so that the rotor becomes a generator. The electric energy thus produced can be fed to two electrodes in a water cell for producing H₂ and O₂. Numerous types of cell are included in 82 claims. Use of the accumulators can be instantaneously recharged in min. time and used for driving vehicles on land, sea, and in the air, or for driving machine tools.

Classifications:

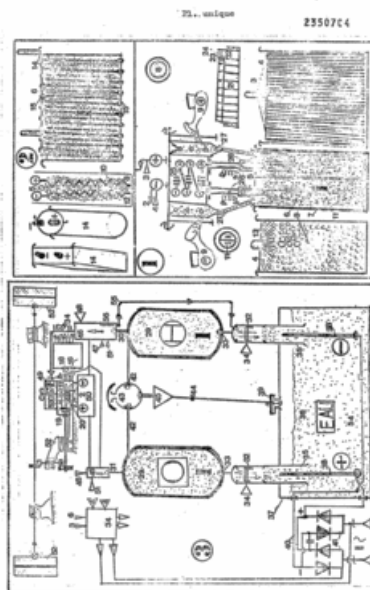
International (IPC 8-9): H01M10/36 H01M8/00 (Advanced/Invention); H01M10/36 H01M8/00 (Core/Invention)

International (IPC 1-7): H01M12/00

CPC: H01M8/00 H01M10/36

European: H01M10/36 H01M8/00 Y02E60/12 Y02E60/50

PatBase - FR2350704_R1



Family:

Publication number	Publication date	Application number	Application date
FR2350704 A1	19771202	FR19760013307	19760504

Priority:

FR19760013307 19760504

Probable Assignee:

MIKRUT ANTOINE

Assignee(s): (std):

MIKRUT ANTOINE

16) Family number: 59377902 (IN00902MU2013A)

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Title: SOLAR CUM SELF POWER CAR

Abstract: The present invention a solar power battery charging unit is prepared which will charge the car battery to drive and the car. The car is also having the attachment such that the front wheel are connected with the generator so when the car will move then also it will charge the battery to run the car.

Classifications:

International (IPC 8-9): H01L31/12 H02J7/00 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
IN00902MU2013 A	20150522	IN2013MU00902	20130320

Priority:

IN2013MU00902 20130320

Probable Assignee: BHAVSAR SWAPNIL CHANDRAKANT

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Assignee(s): DR VASANI RUPESH PARMANAND ; VASANI RUPESH PARMANAND

Inventor(s): (std): SHAH PARIN KAMALKUMAR ; GANATRA TIRTH MAYUR ; PATEL BHUPENDRA LALJIBHAI ; JAIN ANJIL ANVIN ; VASANI MANTHAN HITESH ; BHAVSAR SWAPNIL CHANDRAKANT ; VASANI RUPESH PARMANAND DR

17) Family number: 17998685 (DE19622184A1)

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Title: PORTABLE DEVICE FOR LONG TERM PERFUSION OF HUMAN AND ANIMAL TISSUE E.G. HEART LUNG KIDNEY AND LIVER MACHINE

Abstract: The device has a blood pump (1) which pumps the perfusion fluid e.g. blood from a large circuit with organ containers for the organs to be perfused, into a small circuit with an oxygenator (6) for gas exchange. The blood pump (1) also pumps back from the small circuit to the large circuit. The device also includes an easily exchangeable, blood conveying, re-usable organ container (OHB). The organs which replace the natural organs e.g. the heart, lungs, kidney and liver, such as the blood pump (1), oxygenator (6), dialyser (7) and liver substitute organ (10) all have small dimensions and weight and are combined together into a portable device and are driven together. These artificial organs are connected together for uninterrupted ventilation with uninterrupted blood flow although the organs can be used individually or together as required. The organs are arranged for uninterrupted, optimal blood flow. To reduce the required blood pressure of the pump (1) the organs e.g. active oxygenator (6) have their own internal pump and recycling function. The surfaces over which blood pass have pores along their length. Through these pores, with high hydraulic resistance preventing the blood passing through, an active blood thickening substance is added to the blood. The flow rate of the blood in the problematic area of the artificial blood vessel wall is thus increased within strict limits. The blood pump (1) and the blood conveying parts, the separately exchangeable liver module, the battery and the computer with keyboard are easily replaceable components of the device to provide a live support perfusion function. These artificial organs (6,7,10) can also be fitted into a safe, self controlling light device in a compact housing (56).

Classifications:

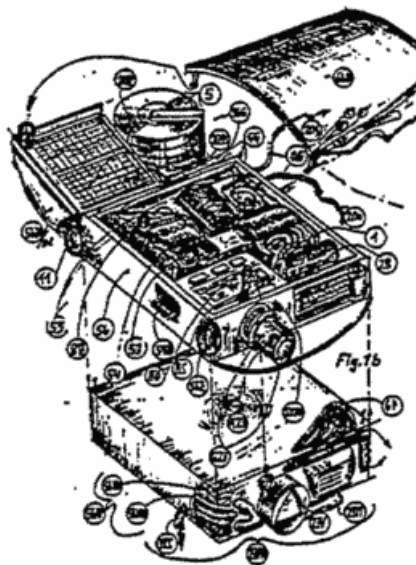
International (IPC 8-9): A61M1/10 A61M1/36 (Advanced/Invention); A61M1/10 A61M1/36 (Core/Invention)

International (IPC 1-7): A61B5/14 A61H39/00 A61M1/00 A61M1/10 A61M1/14 A61M1/36 A61M25/00 A61M29/00 A61M39/22 F04B23/00 F04B43/00 G06F159/00 G06F19/00

CPC: A61M1/3621 A61M1/26 A61M1/10 A61M1/1006

European: A61M1/10 A61M1/36C

PatBase - DE19622184_A1

**Family:**

Publication number	Publication date	Application number	Application date
DE19622184 A1	19971204	DE19961022184	19960603

Priority:

DE19961022184 19960603

Probable Assignee: MARTENS JOERN

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18) Family number: 51264025 (FR2968147A)

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Title: DISK SHAPED ELECTRIC POWER OSCILLATION GENERATOR FOR USE IN E.G. HYBRID VEHICLES, HAS PERMANENT MAGNETS, WHERE PRODUCTION OF ELECTRICAL OUTPUT OBTAINS FROM OSCILLATION OF DISKS EQUIPPED WITH MAGNETS, AND MODULES FIXED ON ALLOY STRUCTURES

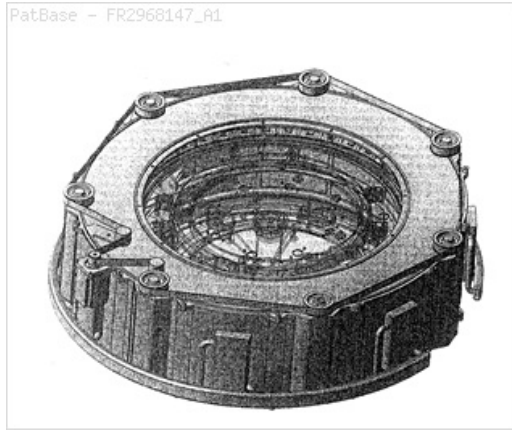
Abstract: The generator has neodymium boron permanent magnets (1c) fixed to transmission rings (1a) of a thermal block, where production of an electrical output is obtained from oscillation of superimposed composite disks (1) equipped with the magnets. A value of the oscillation is 13846 degrees, and is identical to a value produced by the thermal block. Laminated soft iron cores are provided on symmetry on sides of each disk and rolled in a U shaped copper wire to form twenty independent modules. The modules are fixed on rigid non-magnetic light alloy structures.

Classifications:

International (IPC 8-9): H02K35/00 (Advanced/Invention)

CPC: H02K21/026 H02K21/24 H02K2201/03 H02K35/02

European: H02K35/02

**Family:**

Publication number	Publication date	Application number	Application date
FR2968147 A1	20120601	FR20100004644	20101130

Priority:

FR20100004644 20101130

Probable Assignee:

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Inventor(s): (std):

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Agent(s):

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