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Search 4: engine and (magnetic rejection) (Results 6)
Search 5: (turning wheel) and engine and (magnet* or imam) and axis (Results 66)
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Search 8: 6 and engine and (magnet or imam) and rejection and axis and (turning wheel) (Results 0)
Search 9: engine and (magnet or imam) and (pinion or pulley) and (belt or chain) (Results 6515)
Search 10: 6 and 9 (Results 74)

1) Family number: 10864632 (US5763977 A)

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Title: Motor vehicle alternator and system for controlling the same

Abstract: A motor vehicle alternator connected to an output shaft of an internal combustion engine mounted on a vehicle, comprising a rotor made of a permanent magnet for producing a magnetic field, an armature (stator) having a coil placed opposite to the permanent magnet rotor and a belt drive mechanism for connecting one of the permanent magnet and the armature to the output shaft of the engine to bring them into a relative rotation such that the armature relatively moves in the magnetic field produced by the permanent magnet. In the alternator, there is provided an axial displacement mechanism for displacing at least one of the permanent magnet rotor and the armature in an axial direction of the relative rotation, whereby a magnetic flux passing through the armature is changed. The axial displacement mechanism comprises a solenoid, a plunger housed in the solenoid to be movable when the solenoid is energized and a lever connected to the plunger at one end and to a carrier that carries the armature such that it pivots about a fulcrum to displace the armature in the axial direction of the relative rotation. Other types of the mechanism using a rack and pinion, etc., are used. The operation of mechanism is controlled such that a desired electric power is generated.

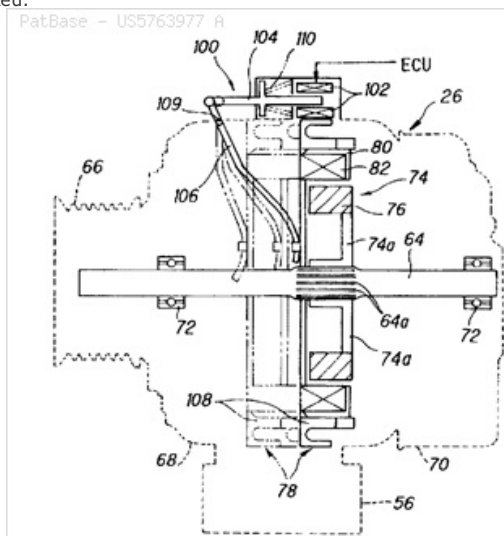
Classifications:

International (IPC 8-9): H02K21/00 H02K21/14 H02K7/18 H02P9/04

International (IPC 1-7): H02K21/14 H02K21/48 H02K7/18 H02P9/04

CPC: H02K21/024

US: 310/162 310/191 310/209



Family:

Publication number	Publication date	Application number	Application date
JP9037598 A2	19970207	JP19950207525	19950721
JP9098558 A2	19970408	JP19960208992	19960719
US5763977 A	19980609	US19960683956	19960719

Priority:

JP19950207525 19950721 JP19950207524 19950721 JP19960208992 19960719

Probable Assignee: HONDA GIKEN KOGYO KK

Assignee(s): (std): HONDA MOTOR CO LTD

Assignee(s): HONDA GIKEN KOGYO KABUSHIKI KAISHA ; HONDA GIKEN KOGYO KK

Inventor(s): (std): KATO HIROAKI ; SHIMASAKI YUICHI ; SHIMAZAKI YUICHI ; TSUZUKI SHUNICHI

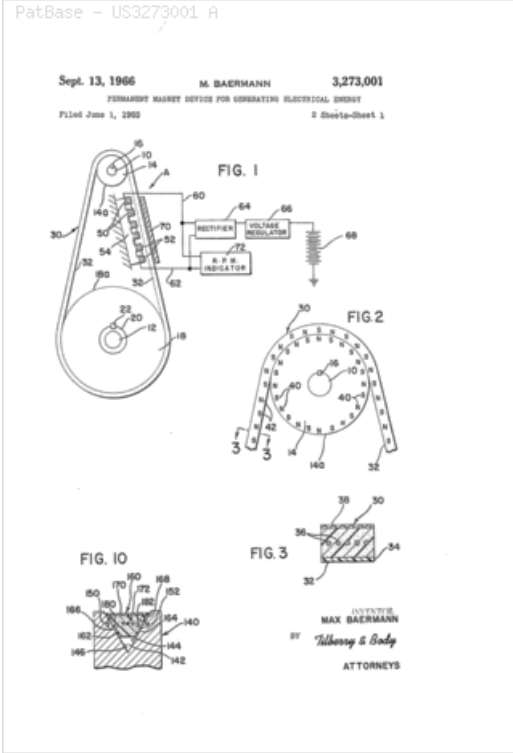
2) Family number: 22579102 (US3273001 A)

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Title: PERMANENT MAGNET DEVICE FOR GENERATING ELECTRICAL ENERGY

Abstract: (Claim 1) 1. In a device for generating electrical energy, said device comprising: a flexible belt, means for moving said belt longitudinally along a preselected path, said belt having a plurality of alternate north and south magnetic pôles longitudinally spaced along one surface of said belt with magnetic lines of force extending outward from said one surface and between said adjacent pôles and an electric coil means positioned adjacent said .path and opposite said one surface, said lines of force intersecting said coil means as said belt moves past said coil means whereby electrical energy is generated within said coil means, the improve-ment comprising: said flexible belt drivingly coupling a rotatable driving drum and a rotatable driven drum, said drums each having an outer, peripheral driving surface for receiving said belt, a set of alternate north and south magnetic pôles equally spaced in a circumferential direction on said peripheral surfaces, the longitudinal spacing of said pôles on said belt being substantially equal to the circumferential spacing of said pôles on said drum surfaces and said belt pôles being on the surface of said belt contacting said drum surfaces.

Classifications:
International (IPC 8-9): H02K57/00
International (IPC 1-7): H02K21/00 H02K31/00
CPC: H02K99/10 Y10S206/818
US: 206/818 290/1R 310/152 310/156.09 310/156.38 324/174



Family:

Publication number	Publication date	Application number	Application date
US3273001 A	19660913	US19650460203	19650601

Priority:
US19650460203 19650601

Probable Assignee: MAX BAERMANN
Assignee(s): (std): MAX BAERMANN
Inventor(s): (std): MAX BAERMANN
Inventor(s): BAERMANN MAX

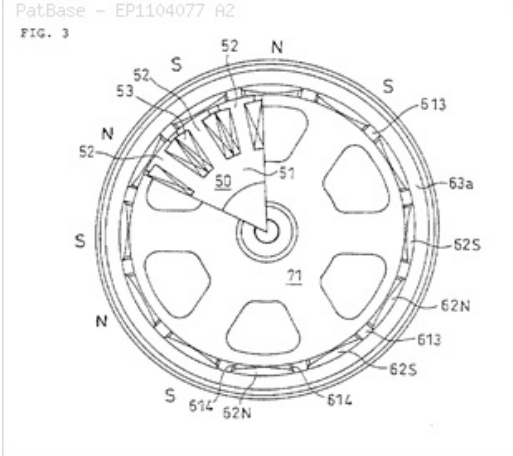
3) Family number: 15838530 (EP1104077 A2)

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Title: PERMANENT MAGNET ROTARY ELECTRIC MOTOR

Abstract: The invention provides a permanent magnet rotary electric motor as a starter-generator apparatus with which high driving torque is obtained when it functions as a starter motor whereas the driven torque can be suppressed low when it functions as a generator. To achieve this, a permanent magnet rotary electric motor which includes a stator 50 and a winding 53 on the stator, and a substantially cylindrical rotor yoke 61 including a plurality of permanent magnets 62 disposed along a circumferential direction and rotatable around the stator 50 and wherein the rotor yoke 61 has a commutating pole portion 613 between each adjacent ones of the permanent magnets 62, is constructed such that a gap 612, 614 is provided at a portion between each of the permanent magnets 62 and the rotor yoke 61.

Classifications:
International (IPC 8-9): H02K1/12 H02K1/17 H02K1/22 H02K1/27 H02K21/00 H02K21/22 H02K21/26 H02K7/10
International (IPC 1-7): H02K1/17 H02K1/22 H02K1/27 H02K21/22 H02K21/26 H02K7/10
CPC: B60L15/007 B60L15/20 B60L15/2054 B60L2210/10 B60L2210/40 B60L50/16 H02K1/148 H02K1/272 H02K1/2786 H02K21/222 H02K7/006 Y02T10/64 Y02T10/7072 Y02T10/72



Family:

Publication number	Publication date	Application number	Application date
■ CN100380790 C	20080409	CN20001028544	20001117
■ CN1297274 A	20010530	CN20001028544	20001117
■ DE60047732 D1	20130228	DE20006047732	20001109
■ EP1104077 A2	20010530	EP20000124562	20001109
■ EP1104077 A3	20030205	EP20000124562	20001109
■ EP1104077 B1	20121226	EP20000124562	20001109
■ ES2397350 T3	20130306	ES20000124562T	20001109
■ ID28434 A	20010524	ID20000000992	20001117
■ IN01013MU2000 A	20050708	IN2000MU01013	20001113
■ IN198186 B	20071012	IN2000MU01013	20001113
■ JP2001211583 A2	20010803	JP20000353096	20001120
■ JP3882982 B2	20070221	JP20000353096	20001120
■ KR100537806 B1	20051219	KR20000068763	20001118
■ KR20010051809 A	20010625	KR20000068763	20001118
■ TH45107 B	20150720	TH20001004354	20001113
■ TH46607 A	20010803	TH20001004354	20001113
■ TW490913 B	20020611	TW20000124135	20001115
■ VN3828 A1	20031125	VN20000001014	20001109

Priority:

JP19990329720 19991119 EP20000124562 20001109 JP20000353096 20001120

Probable Assignee: HONDA MOTOR CO LTD

Assignee(s): (std): HONDA GIKEN KOGYO K K ; HONDA MOTOR CO LTD

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Inventor(s): (std): KAZUKI SHIBATA ; KUNIHIO TANAKA ; ONOSAWA SEIJI ; ONOZAWA SEIJI ; SEIJI ONOSAWA ; SHIBATA KAZUMI ; TANAKA KUNIHIO

Inventor(s): KAZUMI SHIBATA ; KUNIHICO TANAKA ; KUNIHICO TANAKA SEIJI ONOZAWA ; SEIJI ONOZAWA ; SEIJI ONOZAWA ; SHIBATA KAZUKI ; TANAKA KUNIHIRO

Agent(s): LISKA HORST; UNGRIA JAVIER; WEICKMANN AND WEICKMANN PATENTANWAELTE RECHTSANWALT
PARTMBB

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

4) Family number: 28253978 (US2002100624 AA)

Title: HYBRID CAR AND DYNAMO-ELECTRIC MACHINE

Abstract: A hybrid drive type vehicle having a permanent magnet type synchronous motor can provide high torque characteristics in low revolution speed range of the engine and high power generation characteristics at high revolution speed range of the engine. The hybrid drive type vehicle includes an electric rotary machine being formed with a stator and a rotor. A field magnet of the rotor include a first field magnet and a second field magnet. The first and second field magnets are opposing with a magnetic pole of the stator and having a mechanism for varying a phase of a magnetic pole resulting from combination of the first and second field magnets relative to the magnetic pole of the first field magnet depending upon direction of a torque of the rotor.

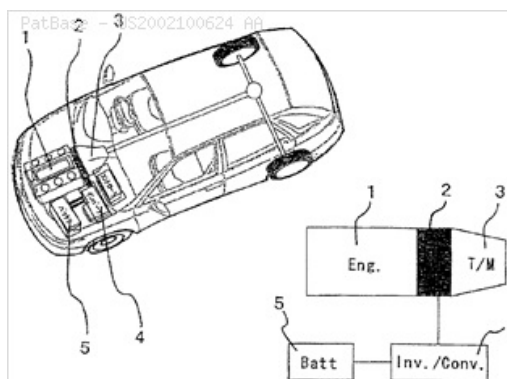
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H02K16/00 H02K16/02 H02K21/00 H02K21/14

International (TPC 1-7): B60K1/00 B60K6/02 B60K6/04 B60L11/14
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H02K23/04 H02P9/04

CPC: B60K6/26 B60K6/485 B60K6/54 B60L50/15 H02K16/02
H02K21/029 Y02T10/62 Y02T10/64 Y02T10/70 Y02T10/7072
Y10S903/903 Y10S903/906 Y10S903/917

US: 180/65.26 180/65.260P 180/65.4 290/4 290/40 290/40.00C
290/40.00CP 290/40.00CS 290/40C 310/114 310/152 310/152P
310/156.01 310/156.1 903/903 903/906 903/906S 903/917
903/917S 903/927



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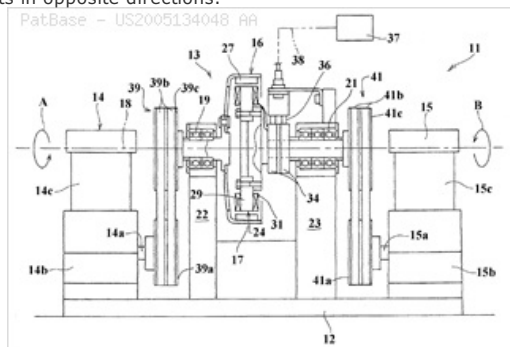
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DE60042513 D1	20090820	DE20006042513T	20000830
EP1085644 A2	20010321	EP20000118189	20000830
EP1085644 A3	20011128	EP20000118189	20000830
EP1085644 B1	20090708	EP20000118189	20000830
JP2001069609 A2	20010316	JP19990246927	19990901
JP3468726 B2	20031117	JP19990246927	19990901
JP2003244874 A2	20030829	JP20020363212	20021216
JP3752487 B2	20060308	JP20020363212	20021216
US6462430 BA	20021008	US2000654081	20000901
US2002100624 AA	20020801	US20020101869	20020321
US6577022 BB	20030610	US20020101869	20020321
US2003102674 AA	20030605	US20030348969	20030123
US2004189128 AA	20040930	US20040752708	20040108
US6833646 BB	20041221	US20040752708	20040108

Priority:

JP19990246927 19990901 JP19990246927 19990909 US20000654081 20000901
US20020101869 20020321 JP20020363212 20021216 US20030348969 20030123
US20040752708 20040108

Probable Assignee: HITACHI CAR ENGINEERING CO LTD**Assignee(s):** (std): HITACHI CAR ENG CO LTD ; HITACHI LTD ; HITACHI LTD AND HITACHI CAR EN**Assignee(s):** AJIMA KOU ; HANYU TOMOYUKI ; HINO NORIAKI ; HITACHI CAR ENGINEERING CO ; HITACHI CAR ENGINEERING CO LTD ; HITACHI LTD AND HITACHI CAR ENGINEERING CO ; HITACHI LTD AND HITACHI CAR ENGINEERING CO LTD ; INNAMI TOSHIYUKI ; JOONG KIM HOUNG ; MIYAZAKI TAIZO ; OHNO KOUSAKU ; TAHARA KAZUO ; UETA KOKI**Inventor(s):** (std): AJIMA KOU ; HANYU MICHYUKI ; HANYU TOMOYUKI ; HINO NORIAKI ; HINO TOKUAKI ; INNAMI TOSHIYUKI ; JOONG KIM HOUNG ; KIN KOUCHIYUU ; MIYAZAKI TAIZO ; OHNO KOUSAKU ; ONO KOSAKU ; TAHARA KAZUO ; TAWARA KAZUO ; UEDA MITSUSHIRO ; UETA KOKI ; YASUJIMA KO**Inventor(s):** KAZUO TAHARA ; KIM HOUNG JOONG ; KOKI UETA ; KOU AJIMA ; KOUSAKU OHNO ; NORIAKI HINO ; TAIZO MIYAZAKI ; TOMOYUKI HANYU ; TOSHIYUKI INNAMI**Agent(s):** BEETZ AND PARTNER; CROWELL AND MORING LLP**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**5) Family number: 32019837** (US2005134048 AA)

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Title: GENERATING APPARATUS**Abstract:** Several embodiments of prime mover driven electrical generators wherein the power output is increased without increasing the driving speed by driving both of the generator elements in opposite directions.**Classifications:****International (IPC 8-9):** B60L11/02 B60L50/10 B61C9/00 B61C9/38 G01L9/00 H02K16/00 H02K21/00 H02K21/22 H02K21/28 H02K23/52 H02K7/10 H02K7/18**International (IPC 1-7):** B60L11/02 B61C9/38 G01L9/00 H02K21/22 H02K21/28 H02K23/52 H02K7/10**CPC:** H02K16/005 H02K7/1815**US:** 290/1A**Family:**

Publication number	Publication date	Application number	Application date
JP2005184973 A2	20050707	JP20030421705	20031218
US2005134048 AA	20050623	US20040904882	20041202

Priority:

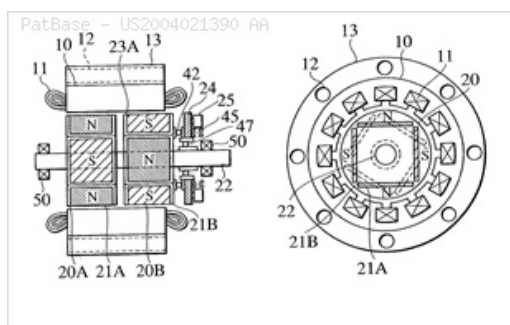
JP20030421705 20031218

Probable Assignee: SOQI KK**Assignee(s):** (std): SOQI INC ; SOQI KK**Assignee(s):** SOQI KABUSHIKI KAISHA**Inventor(s):** (std): AOYAMA TAKEO ; AOYAMA TATEO ; MOCHIZUKI SHUNJI ; MOCHIZUKI TOSHIHARU ; YONEYAMA TAKAO**Agent(s):** ERNEST A BEUTLER ATTORNEY AT LAW**6) Family number: 30245485** (US2004021390 AA)

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Title: ROTARY ELECTRIC MACHINE AND AUTOMOBILE PROVIDED WITH THE SAME

Abstract: In a rotary electric machine capable of improving the reliability of an object provided with the same, a permanent magnet type synchronous rotary electric machine comprises has a stator provided with windings. A rotor arranged supported for rotation in the stator with a gap between the inner surface of the stator and the outer surface thereof, is divided into two rotor bodies each provided with permanent magnets of opposite polarities alternately arranged in a circumferential direction. In switching the permanent magnet type synchronous rotary electric machine from a motor to a generator, a second rotor body is moved axially relative to a first rotor body to an axial position that makes the intensity of a combined magnetic field created by the permanent magnets lower than that of a combined magnetic field created by the permanent magnets when the second rotor body is located at a predetermined position, and then the second rotor body is moved to the predetermined position.

Classifications:**International (IPC 8-9):** B60K6/00 B60K6/20 B60L11/02 B60L11/12 B60L11/14 B60L50/15 B60L50/16 H02K16/00 H02K16/02 H02K21/00 H02K21/04 H02K21/12 H02K21/14 H02K7/10 H02K7/12**International (IPC 1-7):** B60K6/02 B60L11/12 B60L11/14 H02K1/00 H02K16/02 H02K19/26 H02K21/12 H02K21/14 H02K3/00 H02K7/12**CPC:** H02K16/02 H02K21/029**US:** 310/114 310/156.25 310/191 310/209

Family:

Publication number	Publication date	Application number	Application date
CN100358222 C	20071226	CN20031006718	20030227
CN1472868 A	20040204	CN20031006718	20030227
EP1387472 A2	20040204	EP20030005447	20030314
EP1387472 A3	20070221	EP20030005447	20030314
JP2004064942 A2	20040226	JP20020222351	20020731
JP3937966 B2	20070627	JP20020222351	20020731
KR100525168 B1	20051101	KR20030017130	20030319
KR20040012442 A	20040211	KR20030017130	20030319
US2004021390 AA	20040205	US20030392400	20030320
US7002274 BB	20060221	US20030392400	20030320

Priority:

JP20020222351 20020731

Probable Assignee: HITACHI LTD**Assignee(s):** (std): HITACHI LTD**Assignee(s):** IWAJI YOSHITAKA ; KIM HOUNG JOONG**Inventor(s):** (std): HIRONAKA KANUCHI ; IWAJI YOSHITAKA ; IWAMICHI YOSHINAO ; KIM HOUNG JOONG ; KIN KOUCHIYUU ; YOSHINAO IWAMICHI**Inventor(s):** HOUNG JOONG KIM ; KANUCHI HIRONAKA ; YOSHITAKA IWAJI**Agent(s):** CROWELL AND MORING LLP**Designated states:** AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR**7) Family number: 28218862 (US2002117933 AA)**

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Title: ROTATIONAL ELECTRIC MACHINE AND A VEHICLE LOADED THEREWITH

Abstract: A rotational electric machine in which a rotor having different-polarity field magnets arranged alternately in a rotational direction is divided axially into two rotor portions so that the axial position of one of the two rotor portions is changed relative to that of the other in accordance with a direction of torque of the rotor or the phase of synthesized magnetic poles of the field magnets is changed relative to that of magnetic poles of the other rotor portion in accordance with a direction of torque of the rotor, and a vehicle loaded with the rotational electric machine.

Classifications:

International (ipc 8-9): B60K6/00 B60K6/04 B60K6/20 B60K6/26 B60K6/48 B60K6/485 B60K6/54 B60L11/02 B60L50/10 B60W10/08 B60W20/00 H02K1/22 H02K1/27 H02K16/00 H02K16/02 H02K21/00 H02K21/16 H02K29/06 H02K7/00 H02K7/10 H02K7/12 H02K7/18 H02P21/00

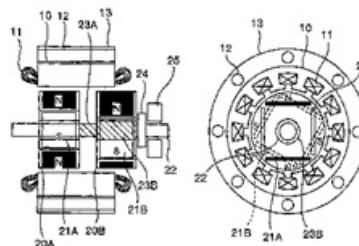
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CPC: B60K6/26 B60K6/38 B60K6/485 B60K6/54 B60L15/025 B60L50/16 B60L50/61 B60W10/02 B60W10/08 B60W20/00 B60W2710/027 H02K21/029 Y02T10/62 Y02T10/64 Y02T10/70 Y02T10/7072 Y10S903/903 Y10S903/906 Y10S903/917

US: 310/114 310/114S 310/156.47 310/156.470S 310/191 310/261 310/261.1 310/261.100P 903/903 903/903S 903/906 903/906S 903/917 903/917S 903/927 903/942

PatBase - US2002117933 AA

Patent Application Publication Aug. 29, 2002 Sheet 1 of 21 US 2002/0117933 A1

FIG.1**Family:**

Publication number	Publication date	Application number	Application date
CN1262060 C	20060628	CN20011025846	20010829
CN1373549 A	20021009	CN20011025846	20010829
DE60137828 D1	20090416	DE20016037828T	20010828
EP1237258 A2	20020904	EP20010119780	20010828
EP1237258 A3	20041027	EP20010119780	20010828
EP1237258 B1	20090304	EP20010119780	20010828
JP2002262534 A2	20020913	JP20010053920	20010228
JP4013487 B2	20071128	JP20010053920	20010228
KR100800532 B1	20080204	KR20010052911	20010830
KR20020070758 A	20020911	KR20010052911	20010830
US2002117933 AA	20020829	US20010942037	20010830
US6700268 BB	20040302	US20010942037	20010830

Priority:

JP20010053920 20010228

Probable Assignee: HITACHI LTD**Assignee(s):** (std): HITACHI LTD ; JOONG KIM HOUNG ; OKABE SATORU**Inventor(s):** (std): HIRONAKA KANUCHI ; JOONG KIM HOUNG ; KIM HOUNG JOONG ; KIN KOUCHIYUU ; OKABE SATORU ; SATORU KANUCHI HIRONAKA OKABE ; SATORU OKABE**Inventor(s):** KANUCHI HIRONAKA ; KANUCHI HIRONAKA OKABE SATORU**Agent(s):** BEETZ AND PARTNER; CROWELL AND MORING LLP**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR**8) Family number: 29366105** (US5838085 A)

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Title: Versatile AC dynamo-electric machine

Abstract: PCT No. PCT/US94/06364 Sec. 371 Date Sep. 10, 1996 Sec. 102(e) Date Sep. 10, 1996 PCT Filed Jun. 8, 1994 PCT Pub. No. WO95/34117 PCT Pub. Date Dec. 14, 1995 The invention comprises a versatile AC dynamo-electric machine (10) comprising isolated dual stators (50 and 50B and 50C), each both concentrated windings (53C) energizable with single-phase AC, and main windings (53) and a single high inertia sleeve (75) and drive plate (74 and 74A) connected to a rotor shaft (70-73A). The sleeve contains independent electrical rotors (80 and 80A), one for each stator. Each rotor has an innermost layer (82) of magnetizable permanent magnetic material in which the concentrated coils in the stator produce a desired pattern of magnetic poles reacting with the rotating field of the main windings. The machine can function (a) as a synchronous AC motor, or (b) a constant frequency output dual AC generator or (c) as an AC motor-generator with long ride-through time. A UPS system (100) comprises the machine (10) in the motor-generator mode, with clutch means (124) to connect an engine (114) to the rotor shaft (73A) to start the engine.

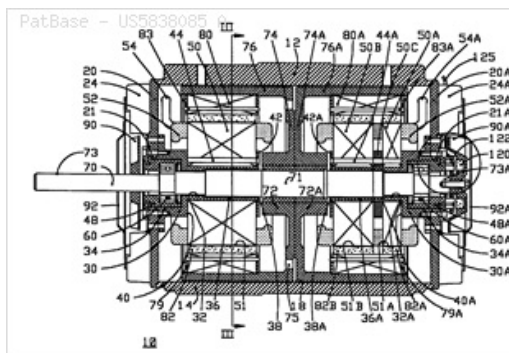
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International (ipc 8-9): F02N11/04 H02J9/06 H02K1/16 H02K11/00 H02K11/38 H02K16/00 H02K21/00 H02K21/04 H02K21/22 H02K21/46 H02K21/48 H02K47/00 H02K47/04 H02K47/20 H02K5/16 H02K7/00 H02K7/02 H02K7/08 H02K7/20 H02P1/26 H02P1/32 H02P9/08

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US: 310/112 310/113 310/114 310/115 310/118

**Family:**

Publication number	Publication date	Application number	Application date
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AU199470550 A1	19960104	AU19940070550	19940608
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AU199863680 A1	19980625	AU19980063680	19980429
AU704814 B2	19990506	AU19980063680	19980429
BRPI9407326 A	19960618	BR1994PI07326	19940608
CA2168977 AA	19960206	CA19942168977	19940608
CA2168977 C	20011225	CA19942168977	19940608
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US5838085 A	19981117	US19960648120	19960910
US5990590 A	19991123	US19980094849	19980615
WO9534117 A1	19951214	WO1994US06364	19940608
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Priority:

WO1994US06364 19940608 AU19940070550 19940608 BR1994PI07326 19940608
US19960648120 19960910 AU19980063680 19980429 US19980094849 19980615

Probable Assignee: PRECISE POWER CORP**Assignee(s):** (std): BARBER RONNIE J ; PRECISE POWER CORP ; ROESEL JOHN F JR**Assignee(s):** PRECISE POWER CORP BRADENTON**Inventor(s):** (std): BARBER J ; BARBER RONNIE J ; ROESEL F JR ; ROESEL JOHN F ; ROESEL JOHN F JR ; ROESEL JR JOHN F**Inventor(s):** JOHN F ROESEL ; JOHN F ROESEL JR ; RONNIE J BARBER**Agent(s):** GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; GRIFFITH HACK**Designated states:** AT AU BE BR CA CH CN DE DK ES FI FR GB GR HU IE IT JP KR LI LU MC NL NO NZ PL PT RU SE UA US**9) Family number: 13245812** (EP1089417 A2)

© PatBase

Title: AN ALTERNATING CURRENT DYNAMO FOR A VEHICLE

Abstract: According to the invention a copper loss of a stator winding (106) which is the largest loss of an alternating current dynamo for a vehicle is reduced by optimizing a balance of a ratio of a rotor outside diameter to a stator outside diameter,

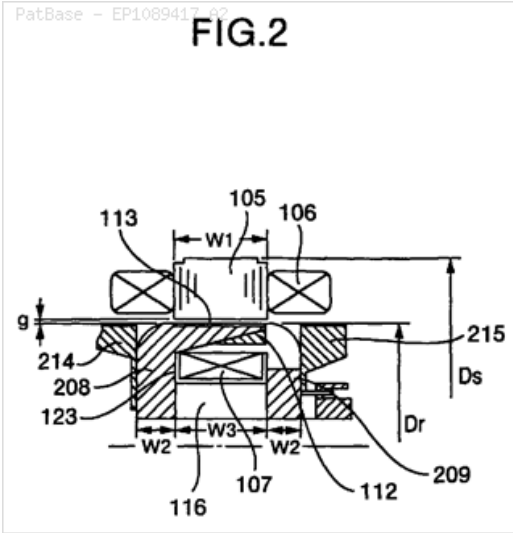
so that efficiency may be improved. Permanent magnets (112) are arranged between claws of an alternating current dynamo for a vehicle having a claw-shaped magnetic pole structure. A ratio of the rotor outside diameter to the stator outside diameter is set at less than 0.73.

Classifications:

International (IPC 8-9): H02K1/12 H02K1/22 H02K19/16 H02K19/22 H02K21/00 H02K21/02 H02K21/04

International (IPC 1-7): H02K1/12 H02K19/22 H02K21/02 H02K21/04 H02K21/14

CPC: H02K19/22 H02K21/044



Family:

Publication number	Publication date	Application number	Application date
EP1089417 A2	20010404	EP20000118152	20000829
EP1089417 A3	20031001	EP20000118152	20000829
JP2001103721 A2	20010413	JP19990278156	19990930
KR20010030256 A	20010416	KR20000052094	20000904

Priority:

JP19990278156 19990930

Probable Assignee: HITACHI LTD

Assignee(s): (std): HITACHI LTD

Inventor(s): (std): HONDA YOSHIKI ; KANAZAWA HIROSHI ; KANAZAWA HIROYUKI ; MATSUBARA KENICHIRO ; SUZUKI ATSUSHI ; SUZUKI OSAMU ; TAHARA KAZUO ; TAKANO MASAMI ; TAWARA KAZUO

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

10) Family number: 18124990 (GB143720 A) © PatBase

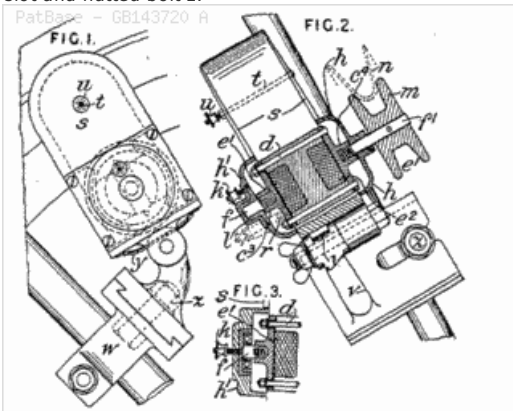
Title: Improvements in or connected with electrical generators or dynamos

Abstract: 143,720. Norton, R. T. May 31, 1919. Magneto-electric machines magnetos, driving collecting-rings.-The ends e<1>, e<2>, Figs. 1 and 2, of the armature winding of a magneto for vehicle-lighting and c. are connected to brass end disks c<3>, c<4>, one of which is insulated from the armature and clamping-bolts d. Spindles f, f<1> are fixed to the end disks and rotate in bearings in covers h, h<1> fixed to the permanent magnet. Current is conveyed from the insulated disk c<3> either by a stationary brush r or by the provision of a metal lining l for the spindle f connected to a terminal k. Both end disks may be insulated from the armature core. The open ends of the magnet may be closed by metal plates s braced together by a bolt t, which may be fitted with a terminal screw u for the earthed end of the circuit. The armature spindles may rotate in ball bearings, Fig. 3. the terminal screw k, in this case, being in direct contact with the ball race, metal casing, or spindle f. The magneto may be driven by a pulley m engaging with the belt rim n of a motor-cycle and c. The base of the magneto has a jointed connexion with a bracket v fixed to the cycle. frame, a spring y being provided for resiliency. The bracket has a dovetailed connexion with the clip w, and is adjustable by means of a slot and nutted bolt z.

Classifications:

International (IPC 8-9): H02K21/00 H02K21/32

CPC: H02K21/325



Family:

Publication number	Publication date	Application number	Application date
GB143720 A	19200603	GB19190013812	19190531

Priority:

GB19190013812 19190531

Probable Assignee: REGINALD THOMAS NORTON

Assignee(s): (std): REGINALD THOMAS NORTON

Title: VARIABLE MAGNETIC FLUX ELECTRIC ROTARY MACHINE

Abstract: An electric rotary machine is disclosed which can adjust relative angles of sub-rotors continuously and regardless of torque direction without generating an attractive force between the field magnets of the sub-rotors. The electric rotary machine includes: a stator having a winding; a dual rotor which is rotatably disposed with a gap from the stator and divided axially along a shaft into a first rotor and a second rotor each having field magnets with different polarities arranged alternately in a rotation direction; a mechanism for varying the axial position of the second rotor relative to the first rotor continuously; and a non-magnetic member located between the first rotor and the second rotor.

Classifications:

International (IPC 8-9): B60L11/14 B60L50/16 H02K1/27 H02K16/00 H02K16/02 H02K21/00 H02K21/02 H02K21/14 H02K23/40

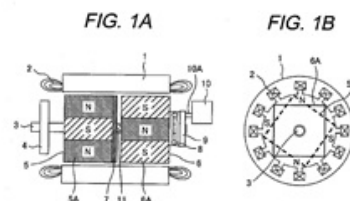
H02K23/44 H02P7/18 H02P7/298 H02P9/00 H02P9/04

CPC: B60L2200/26 H02K21/029 Y02T10/64

US: 310/126 318/540 903/906

PatBase - US2010164422 AA

Patent Application Publication Jul. 1, 2010 Sheet 1 of 9 US 2010/0164422 A1



Family:

Publication number	Publication date	Application number	Application date
CN101795039 A	20100804	CN200910266382	20091224
DE102009060199 A1	20100826	DE200910060199	20091223
JP2010154699 A2	20100708	JP20080331833	20081226
US2010164422 AA	20100701	US20090645854	20091223

Priority:

JP20080331833 20081226

Probable Assignee: HITACHI LTD

Assignee(s): (std): HITACHI LTD

Inventor(s): (std): HOUNG KIM ; KIM HOUNG ; KIM HOUNG JOONG ; KOHIN SHU ; MIYAZAKI TAIZO ; OKABE SATORU ; SATORU OKABE ; SHU KOHIN ; TAIZO MIYAZAKI

Agent(s): ANTONELLI TERRY STOUT AND KRAUS LLP; INOUE MANABU

Title: CONTROL DEVICE FOR MOTOR GENERATOR

Abstract: In the control device for motor generator in which an engine is started and power generation is performed while a vehicle is running, a field current limit value I_{fm} in electric driving to start the engine is larger than a field current limit value I_{fg} in power generation. In the power generation, an inverter mode in a low rotation speed zone for boosting and an alternator mode in a high rotation speed zone for rectifying and outputting a generated voltage without boosting are provided. A field current limit value I_{fgi} in the inverter-mode power generation and a field current limit value I_{fga} in the alternator-mode power generation are set differently from each other, and the larger value is set as the value I_{fg} .

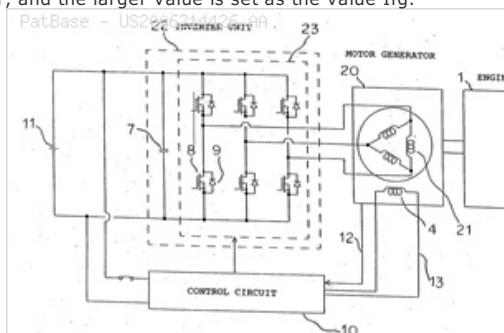
Classifications:

International (IPC 8-9): F02N11/04 H01R39/58 H02K21/00 H02K23/52 H02P1/18 H02P9/04 H02P9/14 H02P9/30

International (IPC 1-7): F02N11/04 H02P9/14

CPC: H01R39/58 H02P9/305

US: 290/31 318/254 318/400.09



Family:

Publication number	Publication date	Application number	Application date
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EP1717944 A1	20061102	EP20050710171	20050214
EP1717944 A4	20141126	EP20050710171	20050214
EP1717944 B1	20181010	EP20050710171	20050214
JP2005237084 A2	20050902	JP20040041470	20040218
JP4113848 B2	20080709	JP20040041470	20040218
US2006214426 AA	20060928	US20050554100	20051021
US7268441 BB	20070911	US20050554100	20051021
WO05078912 A1	20050825	WO2005JP02169	20050214

Priority:

JP20040041470 20040218 WO2005JP02169 20050214

Probable Assignee: MITSUBISHI DENKI KK

Assignee(s): (std): ASAO YOSHIHITO ; MITSUBISHI ELECTRIC CORP ; NISHIMURA SHINJI ; NISHIMURA SHINJI

Assignee(s): MITSUBISHI DENKI KABUSHIKI KAISHA ; MITSUBISHI DENKI KK

Inventor(s): (std): ASAO YOSHIHITO ; ASAO YOSHITO ; NISHIMURA SHINJI ; NISHIMURA SHINJI

Inventor(s): ASAO YOSHIHITO C O MITSUBISHI DENKI KK ; NISHIMURA SHINJI C O MITSUBISHI DENKI KK

Agent(s): HOFFMANN EITL; SUGHRUE MION PLLC

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 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

13) Family number: 28630281 (US2003102758 AA)

© PatBase

Title: BRUSHLESS ROTARY ELECTRIC MACHINE HAVING TANDEM ROTARY CORES

Abstract: A brushless rotary electric machine includes a stator having an annular armature core with first radial teeth at the outer periphery thereof and second radial teeth at the inner periphery thereof and an armature winding wound between the teeth, a rotor having a pair of first and second rotary cores disposed tandem in the axial direction thereof, and a field coil. Each of the first and second rotary cores has a pair of coaxial outer and inner cylindrical pole members respectively facing the first and second radial teeth, a center core and a disk member magnetically connecting the pair of coaxial cylindrical pole members and the center core. The stator is accommodated by a first space defined by the outer and inner cylindrical members of the pair of first and second rotary cores. The field coil is accommodated by a second space defined by the inner cylindrical pole member and the center core of the first and second rotary cores.

Classifications:

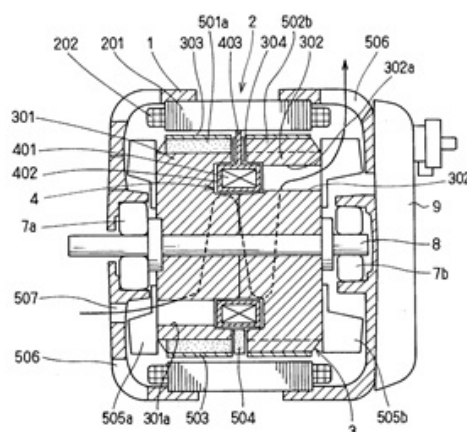
International (IPC 8-9): H02K1/06 H02K1/16 H02K1/22 H02K1/27 H02K16/00 H02K16/02 H02K17/00 H02K19/16 H02K19/20 H02K19/24 H02K21/00 H02K21/04 H02K21/12 H02K21/14 H02K21/22 H02K29/00 H02K47/04

International (IPC 1-7): H02K1/06 H02K1/22 H02K1/27 H02K16/02 H02K19/24 H02K21/04 H02K21/12 H02K21/14 H02K29/00 H02K3/00

CPC: H02K1/16 H02K1/27 H02K21/042 H02K21/046 H02K21/12 H02K21/14 H02K21/22

US: 310/113 310/116 310/156.25 310/156.250S 310/156.66 310/156.660P 310/156.69 310/166 310/166P 310/168 310/168P 310/168S 310/191 310/191S 310/254 310/254.1 310/254.100S 310/261 310/261.1 310/261.100S 310/263 310/266 310/266S 310/75C

PatBase - US2003102758 AA



Family:

Publication number	Publication date	Application number	Application date
JP2003164127 A2	20030606	JP20010360903	20011127
JP3724416 B2	20051207	JP20010360903	20011127
JP2004048920 A2	20040212	JP20020204080	20020712
JP3937950 B2	20070627	JP20020204080	20020712
US2003102758 AA	20030605	US20020300026	20021120
US7064466 BB	20060620	US20020300026	20021120
US2005236920 AA	20051027	US20050167258	20050628
US7023121 BB	20060404	US20050167258	20050628
US2006082238 AA	20060420	US20050291903	20051202
US7078840 BB	20060718	US20050291903	20051202

Priority:

JP20010360903 20011127 JP20020204080 20020712 US20020300026 20021120
US20050167258 20050628 US20050291903 20051202

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP

Inventor(s): (std): KUSASE ARATA ; KUSASE SHIN ; MUKAI TAKUZO ; MUKAI TAKUZOU

Inventor(s): SHIN KUSASE ; TAKUZOU MUKAI

Agent(s): OLIFF AND BERRIDGE PLC

Title: COMPACT HIGH POWER ALTERNATOR

Abstract: An apparatus for converting between mechanical and electrical energy, particularly suited for use as a compact high power alternator for automotive use and "remove and replace" retrofitting of existing vehicles. Various aspects of the invention provide a means of significantly increasing the output of permanent magnet alternators while addressing the issues of radial loading applied to a permanent magnet alternator rotor. Another aspect of the invention allows for the production of power in two discrete voltages. An aspect of this invention allows for a marked increase in output capability without increasing axial length through the use of magnetic fringing. One aspect of the invention offers an effective means of mounting a skewed stack that eliminates or reduces cogging that is present in a permanent magnet machine without negatively impacting airflow. Another aspect of the invention reduces cogging by radially offsetting opposing magnets of a dual rotor permanent magnet machine.

Classifications:

International (IPC 8-9): H02K16/00 H02K21/00 H02K21/12

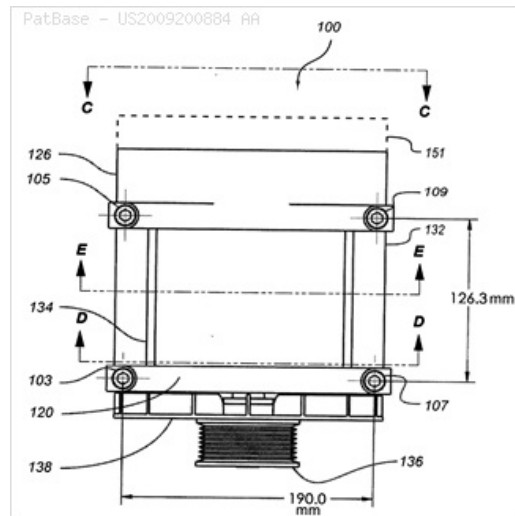
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CPC: H02K1/16 H02K1/2786 H02K1/30 H02K1/32 H02K16/00

H02K21/22 H02K9/06

US: 310/112 310/114 310/114P 310/156.25 310/156.250S 310/52

310/52S 310/59

**Family:**

Publication number	Publication date	Application number	Application date
CA2714579 AA	20090813	CA20092714579	20090209
CN102084579 A	20110601	CN200980112561	20090209
EP2253060 A1	20101124	EP20090707682	20090209
JP2011512118 T2	20110414	JP20100546095T	20090209
KR20100134585 A	20101223	KR20107019992	20090209
MX2010008783 A1	20110301	MX20100008783	20090209
US2009200884 AA	20090813	US20090368212	20090209
US8018108 BB	20110913	US20090368212	20090209
US2012038234 AA	20120216	US20110215167	20110822
WO09100448 A1	20090813	WO2009US33585	20090209

Priority:

US20080026954P 20080207

US20080026954 20080207

WO2009US33585 20090209

US20090368212 20090209

US20110215167 20110822

Probable Assignee: MAGNETIC APPLICATIONS INC

Assignee(s): (std): LAFONTAINE CHARLES Y ; MAGNETIC APPLIC INC ; MAGNETIC APPLICATIONS INC STAR ; SCOTT HAROLD C

Assignee(s): MAGNETIC APPLICATIONS INC

Inventor(s): (std): LAFONTAINE CHARLES Y ; SCOTT HAROLD C

Agent(s): DAVID E; LAWRENCE JOHN; LOCKWOOD LUCIUS L ET AL; SQUIRE SANDERS AND DEMPSEY LLP

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 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 PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: MOTOR VEHICLE ALTERNATOR HAVING SEALED RECTIFIERS FOR EFFICIENT HIGH-TEMPERATURE OPERATION

Abstract: An alternator includes MOSFETs used as rectifiers which are sealed by a sealing member (for example, a molded epoxy resin) together with heat radiating fins and an external input/output terminal plate. The sealing member can evenly dissipate stress even if the radiating fins, terminal plate, and the like vibrate with different phases. Since the rectifying elements are reliably secured even when subjected to great vibrations, damage to the MOSFETs can be suppressed. The MOSFETs are never exposed to atmospheric air since the MOSFETs are sealed by the sealing member. Therefore, the alternator can improve the MOSFETs' resistance against adverse operational conditions.

Classifications:

International (IPC 8-9): H02J7/16 H02J7/24 H02K11/04 H02K19/16 H02K19/36 H02K9/21

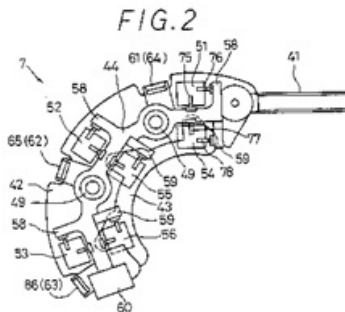
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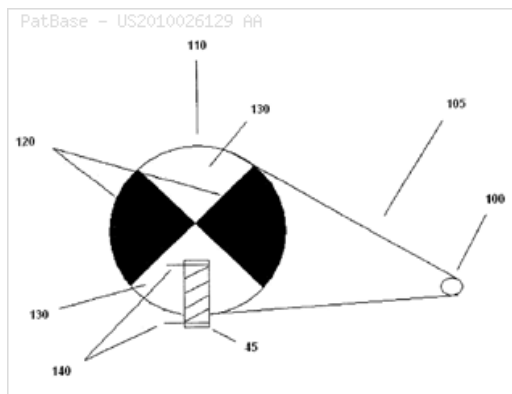
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H01L2924/13091 H01L2924/14 H01L2924/181 H02J7/0042

H02K11/046 H02J7/248

US: 322/16 363/145





Family:

Publication number	Publication date	Application number	Application date
US2010026129 AA	20100204	US20080248960	20081010

Priority:

US20080137548P 20080801 US20080248960 20081010

Probable Assignee:

BLACK JR RICHARD K

Assignee(s): (std):

BLACK JR RICHARD K

Inventor(s): (std):

BLACK JR RICHARD K

Agent(s):

DEFILLO AND ASSOCIATES INC

17) Family number: 42521243 (US2008309188 AA)

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Title: ELECTRICAL OUTPUT GENERATING DEVICES AND DRIVEN ELECTRICAL DEVICES WITH REDUCED FLUX LEAKAGE USING PERMANENT MAGNET COMPONENTS, AND METHODS OF MAKING AND USING THE SAME

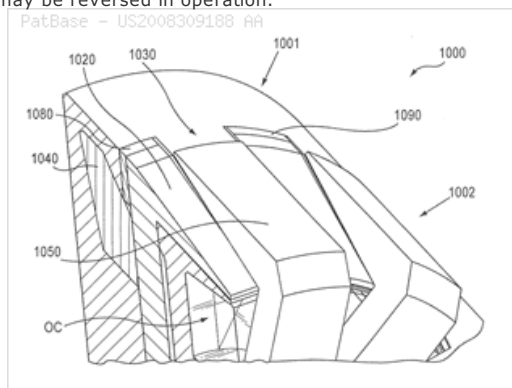
Abstract: A device for generating electrical or mechanical output, comprising a stator coil, a stator assembly, a rotor coil, a rotor assembly rotational about an axis, the rotor assembly at least partially surrounding the rotor coil, rotator extensions capable of induced magnetization and extending from the rotator, each rotator extension having a rotor extension surface, wherein magnetic flux leakage between the rotator extension surfaces is prevented or reduced via permanent magnet elements located at the rotator extension surfaces. Stator and rotor may be reversed in operation.

Classifications:

International (IPC 8-9): B22F3/02 B22F7/06 B32B15/16 B32B5/22 B32B7/08 H02K1/12 H02K1/18 H02K1/20 H02K1/22 H02K1/27 H02K15/02 H02K21/00 H02K21/04 H02K21/12 H02K21/14 H02K21/26 H02K21/38 H02K3/00

CPC: H02K19/22 H02K21/12 H02K2201/12 H02K1/02 H02K1/141 H02K1/18 H02K1/27 H02K1/30 H02K15/022 H02K15/12 H02K21/125 Y10T29/49009 Y10T428/12028 Y10T428/12264 Y10T428/12271 Y10T428/12451

US: 29/596 29/596S 310/156.07 310/156.07P 310/156.66 310/156.67 310/156.68 310/156.72 310/156.73 310/179 310/179P 310/181 310/181S 310/216.061 310/216.113 310/216.113P 310/257 310/257P 310/263 310/263P 310/263S 310/266 310/268 310/52 310/52S 419/6 419/66 419/66S 419/8 428/548 428/548P 428/582 428/583 428/609



Family:

Publication number	Publication date	Application number	Application date
EP2151039 A1	20100210	EP20080769416	20080509
EP2149189 A2	20100203	EP20080780644	20080509
US2009160288 AA	20090625	US20080149931	20080509
US7800275 BB	20100921	US20080149931	20080509
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US7989084 BB	20110802	US20080149933	20080509
US2009206696 AA	20090820	US20080149934	20080509
US7868511 BB	20110111	US20080149934	20080509
US2008309188 AA	20081218	US20080149935	20080509
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US2009206693 AA	20090820	US20080149936	20080509
US7973446 BB	20110705	US20080149936	20080509
US2010295410 AA	20101125	US20100847991	20100730
US7863797 BB	20110104	US20100847991	20100730
US2011221298 AA	20110915	US20110112619	20110520
WO08141173 A2	20081120	WO2008US63236	20080509
WO08141173 A3	20091230	WO2008US63236	20080509
WO08141198 A1	20081120	WO2008US63268	20080509
WO08141214 A1	20081120	WO2008US63287	20080509
WO08141224 A1	20081120	WO2008US63301	20080509
WO08141245 A2	20081120	WO2008US63336	20080509
WO08141245 A3	20091230	WO2008US63336	20080509

Priority:

US20070924328P	20070509	US20080064161P	20080220	US20080064162P	20080220
US20080064162	20080220	US20080064161	20080220	WO2008US63336	20080509
WO2008US63301	20080509	US20080149935	20080509	US20080149931	20080509
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US20100847991	20100730	US20110112619	20110520		

Probable Assignee: ELECTRIC TORQUE MACHINES INC

Assignee(s): (std): CALLEY DAVID ; CALLEY DAVID GREGORY ; JANECEK THOMAS ; JANECEK TOM ; MOTOR EXCELLENCE LLC

Assignee(s): ELECTRIC TORQUE MACHINES INC

Inventor(s): (std): CALLEY DAVID ; CALLEY DAVID G ; CALLEY DAVID GREGORY ; JANECEK THOMAS ; JANECEK TOM

Agent(s): ARENT FOX LLP; CHESSER WILBURN L ET AL; DOYLE WILLIAM ET AL; HARGREAVES TIMOTHY EDWARD; SNELL AND WILMER LLP; SNELL AND WILMER LLP MAIN; WILBURN L CHESSER

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 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 PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

18) Family number: 13332704 (US6590312 BA)

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Title: ROTARY ELECTRIC MACHINE HAVING A PERMANENT MAGNET STATOR AND PERMANENT MAGNET ROTOR

Abstract: A rotary electric machine for a hybrid vehicle includes a rotor connected between a vehicle engine and a torque transmission mechanism at the back of the vehicle engine and a stator. The rotor includes an outer rotor portion having an inner surface electro-magnetically connected to the outer surface of the stator, an inner rotor portion having an outer surface electro-magnetically connected to the inner surface of the stator. The stator includes a stator core disposed between the inner rotor portion and the outer rotor portion and a multi-phase winding wound on the stator to be electro-magnetically connected with both the outer and inner rotor portions.

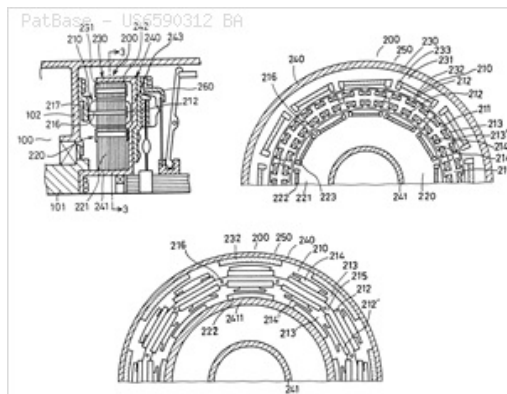
Classifications:

International (IPC 8-9): B60K6/00 B60K6/02 B60K6/04 B60K6/20 B60K6/26 B60K6/40 B60K6/44 B60K6/48 B60L11/14 B60L50/16 H02K16/00 H02K16/02 H02K19/02 H02K19/10 H02K21/00 H02K21/04 H02K21/12 H02K3/04 H02K3/28 H02K5/20 H02K7/00 H02K7/14 H02K7/18 H02K9/02 H02K9/22

International (IPC 1-7): B60K6/02 B60K6/04 B60L11/14 H02K1/22 H02K1/600 H02K1/602 H02K16/00 H02K16/02 H02K19/10 H02K2/112 H02K21/04 H02K21/12 H02K3/04 H02K3/28 H02K5/20 H02K7/14 H02K7/18 H02K9/02 H02K9/22

CPC: B60K6/26 B60K6/40 B60K6/44 B60K6/48 B60L15/007 B60L15/2009 B60L2210/40 B60L2240/12 B60L2240/421 B60L2240/423 B60L2240/441 B60L2240/443 B60L2270/145 B60L50/16 B60L50/61 B60L7/06 H02K16/00 H02K21/12 H02K3/28 H02K7/006 H02K7/1815 Y02T10/62 Y02T10/64 Y02T10/70 Y02T10/7072 Y02T10/72 Y10S903/906 Y10S903/951 Y02T10/6226 Y02T10/641

US: 310/114 310/156.01 310/156.12 310/156.37 310/156.49 310/156.53 310/156.57 310/266 903/906 903/924 903/927 903/951



Family:

Publication number	Publication date	Application number	Application date
DE60027840 D1	20060614	DE20006027840T	20001117
DE60027840 T2	20061228	DE20006027840T	20001117
EP1102385 A2	20010523	EP20000125139	20001117
EP1102385 A3	20030402	EP20000125139	20001117
EP1102385 B1	20060510	EP20000125139	20001117
JP2001145209 A2	20010525	JP19990328233	19991118
JP2001268870 A2	20010928	JP20000072973	20000315
JP4019595 B2	20071212	JP20000072973	20000315
JP2001268866 A2	20010928	JP20000072982	20000315
JP2001275308 A2	20011005	JP20000091850	20000329
JP4325065 B2	20090902	JP20000091850	20000329
JP2001275324 A2	20011005	JP20000091859	20000329
JP4000746 B2	20071031	JP20000091859	20000329
US6590312 BA	20030708	US20000714875	20001117

Priority:

JP19990328233	19991118	JP20000072982	20000315	JP20000072973	20000315
JP20000091850	20000329	JP20000091859	20000329		

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP

Assignee(s): DENSO CORP KARIYA

Inventor(s): (std): BANZAI KEIICHIRO ; BANZAI KEIICHIROU ; IMANI YUICHI ; KOU DA SEIJI ; KOU DA SHINJI ; SEGUCHI MASAHIRO ; TOMOARI KEIICHIRO ; YANASE SUMIO ; YONEDA SHIGENORI

Inventor(s): BANZAI ; IMANI ; KEIICHIRO BANZAI ; KOU DA ; MASAHIRO SEGUCHI ; SEGUCHI ; SHIGENORI YONEDA ; SHINJI KOU DA ; SUMIO YANASE ; YANASE ; YONEDA

Agent(s): OLIFF AND BERRIDGE PLC

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

19) Family number: 32558250 (US2006267344 AA)

© PatBase

Title: STARTER GENERATOR FOR VEHICLE

Probable Assignee: GERMAN JAMES W
Assignee(s): (std): GERMAN JAMES W
Assignee(s): WARD STEVEN
Inventor(s): (std): GERMAN JAMES W

21) Family number: 32192001 (US2005184617 AA)

© PatBase

Title: GENERATOR MOTOR FOR VEHICLES

Abstract: It is an object of the invention to obtain a generator motor for vehicles that can increase generated power or generated torque by a special positioning of permanent magnets in gaps between predetermined claw magnetic poles. The invention provides a generator motor for vehicles that includes a stator and a rotor provided rotatably within the inner periphery of the stator. The rotor includes: a pair of pole cores with plural claw magnetic poles formed on outer peripheral sides thereof, the plural claw magnetic poles of respective pole cores facing opposite to each other and meshing; plural permanent magnets that are arranged in the spaces between the claw magnetic poles adjacent to one another in the rotor circumferential direction; and a magnetic field coil that is mounted inside the pole cores. In the generator motor for vehicles, each permanent magnet02 is positioned toward one of the claw magnetic poles away from the center in the circumferential direction of the space between the claw magnetic poles.

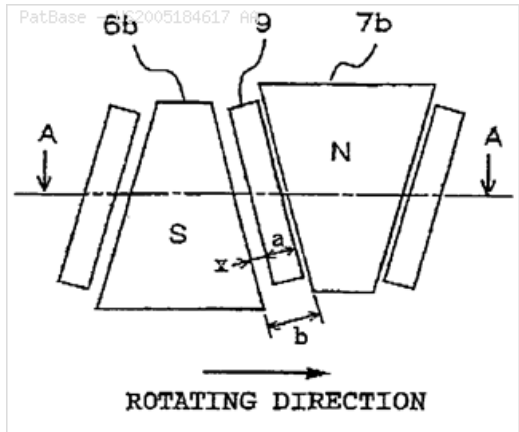
Classifications:

International (ipc 8-9): H02K1/22 H02K1/27 H02K19/24 H02K21/00 H02K21/04 H02K21/12 H02K21/14

International (ipc 1-7): H02K1/22 H02K1/27 H02K21/04 H02K21/14

CPC: H02K21/044

US: 310/156.66 310/263 310/263P



Family:

Publication number	Publication date	Application number	Application date
JP2005237107 A2	20050902	JP20040042733	20040219
JP4045246 B2	20080213	JP20040042733	20040219
US2005184617 AA	20050825	US20050059366	20050217
US7095154 BB	20060822	US20050059366	20050217

Priority:

JP20040042733 20040219

Probable Assignee: MITSUBISHI DENKI KK

Assignee(s): (std): MITSUBISHI ELECTRIC CORP

Assignee(s): MITSUBISHI DENKI KABUSHIKI KAISHA ; MITSUBISHI DENKI KK

Inventor(s): (std): FUJITA MASAHIKO ; FUJITA NOBUHIKO ; KOMETANI HARUYUKI ; YONETANI HARUYUKI ; YOSHIZAWA TOSHIYUKI

Agent(s): SUGHRUE MION PLLC

22) Family number: 42755577 (US2008315701 AA)

© PatBase

Title: DYNAMOELECTRIC MACHINE AND MANUFACTURING METHOD THEREFOR

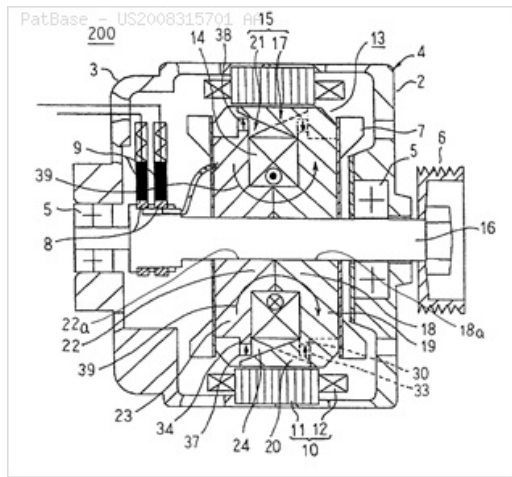
Abstract: A dynamoelectric machine includes: a permanent magnet holding portion that is disposed integrally so as to project from the yoke portion on a portion of the pair of yoke portions that faces an inner circumferential surface near a tip end of the plurality of claw-shaped magnetic pole portions; an arc-shaped magnet holding aperture that has a C-shaped cross section that is formed in each of the permanent magnet holding portions so as to have an aperture center that is oriented axially, in which at least one axial end is open, and that opens radially outward; a magnet holding member that is made of a nonmagnetic material that is fitted into and held by the magnet holding aperture; and a permanent magnet that is held by the magnet holding member so as to face the inner circumferential surface near the tip end of the claw-shaped magnetic pole portions, that is prepared into a prismatic body that has a quadrilateral cross section perpendicular to an axial direction, and that is magnetically oriented in a reverse direction to an orientation of a magnetic field produced by the field coil.

Classifications:

International (ipc 8-9): H02K1/22 H02K1/27 H02K1/28 H02K15/02 H02K15/03 H02K19/16 H02K19/22 H02K19/24 H02K21/00 H02K21/04 H02K21/16

CPC: H02K21/044 Y10T29/49012

US: 29/598 310/156.72 310/263



Probable Assignee: DENSO CORP
Assignee(s): (std): DENSO CORP
Inventor(s): (std): MUKAI TAKUZO ; MUKAI TAKUZOU ; NAKAMURA SHIGENOBU
Inventor(s): SHIGENOBU NAKAMURA ; TAKUZOU MUKAI
Agent(s): OLIFF AND BERRIDGE PLC

24) Family number: 44323468 (US2010026130 AA)

Title: ELECTRIC ROTARY MACHINE FOR VEHICLE

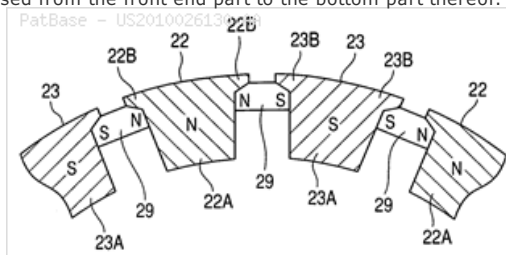
Abstract: An AC alternator for a vehicle has a rotor having a pair of pole cores, and a stator. A plurality of claw magnetic pole parts are formed in the pole cores. A permanent magnet is placed between a pair of the claw magnetic pole parts so as to prevent leakage of magnetic flux through the area between the adjacent claw magnetic pole parts. The stator and the rotor are placed in the AC alternator so that the stator faces the rotor at a spacing of predetermined intervals. Flanges are formed at both sides of each of the claw magnetic pole parts. The presence of the flanges fixes the permanent magnets to the pole cores, and prevents them from moving toward the outer radius direction measured from the rotary shaft of the rotor. In particular, the thickness of each of the flange parts is increased from the front end part to the bottom part thereof.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K1/28
H02K19/16 H02K19/22 H02K21/00 H02K21/04

CPC: H02K21/044

US: 310/156.71 310/156.72 310/181 310/181P 310/263



Family:

Publication number	Publication date	Application number	Application date
DE102009034587 A1	20100218	DE200910034587	20090724
JP2010035317 A2	20100212	JP20080194252	20080729
JP4858505 B2	20120118	JP20080194252	20080729
US2010026130 AA	20100204	US20090458711	20090721
US8810101 BB	20140819	US20090458711	20090721

Priority:

JP20080194252 20080729

Probable Assignee:	DENSO CORP
Assignee(s): (std):	DENSO CORP ; KONDO KOJI
Inventor(s): (std):	KONDO KOJI
Agent(s):	OLIFF AND BERRIDGE PLC ; OLIFF PLC

25) Family number: 30322187 (US2003137204 AA)

Title: AUTOMOTIVE ALTERNATOR STATOR ASSEMBLY WITH RECTANGULAR CONTINUOUS WIRE

Abstract: A stator assembly for an electric machine includes a metal core with windings installed into slots of the core. A pair of conductors of a continuous form is used for each phase of the machine. The windings are interlaced to alternate between radially inner and outer positions in each adjacent winding slot of the stator core.

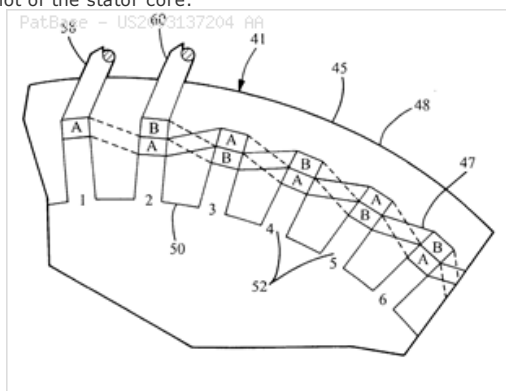
Classifications:

International (IPC 8-9): H02K1/00 H02K1/16 H02K15/00 H02K15/04
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H02K3/04 H02K3/12 H02K3/24 H02K3/28 H02K3/46 H02K3/48
H02K3/493 H02K3/50 H02K9/02

International (IPC 1-3): H02K1/00 H02K1/08 H02K1/16 H02K1/700
H02K11/00 H02K15/02 H02K15/085 H02K15/12 H02K15/14
H02K15/16 H02K17/00 H02K19/00 H02K19/26 H02K21/00
H02K23/26 H02K3/00 H02K3/04 H02K3/12 H02K3/14 H02K3/28
H02K3/34 H02K3/46 H02K3/48 H02K7/00 H02K9/02

CPC: H02K15/0478 H02K3/12 H02K3/24 H02K3/28 Y10T29/49009

Y10T29/49012 Y10T29/49071 Y10T29/49073 Y10T29/49011
Y10T29/49078 H02K15/0037 H02K3/50 H02K3/50S H02K3/493
US: 2/959.8 2/960.6 2/960.9 2/959.29/596 29/596S 29/597 29/598 29/605
29/606 29/606S 29/609 310/179 310/179P 310/179S 310/180
310/180P 310/184 310/184S 310/201 310/201P 310/201S 310/203
310/207 310/207P 310/207S 310/208 310/208P 310/208S 310/214
310/214P 310/260 310/270 310/270P 310/42



Family:

Publication number	Publication date	Application number	Application date
 CN100352134 C	20071128	CN200410039958	20040315
 CN1531167 A	20040922	CN200410039958	20040315
 DE10302740 A1	20031009	DE20031002740	20030123
 DE10302947 A1	20030821	DE20031002947	20030124
 DE10359863 A1	20040715	DE20031059863	20031218
 DE102004011795 A1	20041028	DE200410011795	20040309
 DE102004056811 A1	20050630	DE200410056811	20041124

FR2852461 A1	20040917	FR20040002494	20040310
FR2852461 B1	20060407	FR20040002494	20040310
FR2862818 A1	20050527	FR20040012202	20041117
GB200229672 A0	20030129	GB20020029672	20021220
GB2389717 A1	20031217	GB20020029672	20021220
GB2389717 B2	20040728	GB20020029672	20021220
GB200229674 A0	20030129	GB20020029674	20021220
GB2390486 A1	20040107	GB20020029674	20021220
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JP2004282996 A2	20041007	JP20040072650	20040315
JP4105111 B2	20080625	JP20040072650	20040315
JP2005160297 A2	20050616	JP20040340714	20041125
JP4105144 B2	20080625	JP20040340714	20041125
US2003137205 AA	20030724	US20020056890	20020124
US6750581 BB	20040615	US20020056890	20020124
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US2004119362 AA	20040624	US20030443441	20030522
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US2004135458 AA	20040715	US20030443644	20030522
US6858963 BB	20050222	US20030443644	20030522
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US6750582 BA	20040615	US20030443650	20030522
US2005110360 AA	20050526	US20030723527	20031126
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US2004183389 AA	20040923	US20040767022	20040129
US6826823 BB	20041207	US20040767022	20040129
US2004212268 AA	20041028	US20040848909	20040519
US6862797 BB	20050308	US20040848909	20040519
US2005006979 AA	20050113	US20040850012	20040519
US7129612 BB	20061031	US20040850012	20040519
US2004263016 AA	20041230	US20040899338	20040726
US6885124 BB	20050426	US20040899338	20040726
US2005046297 AA	20050303	US20040914374	20040809
US7170211 BB	20070130	US20040914374	20040809
US2005062359 AA	20050324	US20040988386	20041110
US6949857 BB	20050927	US20040988386	20041110
US2007018527 AA	20070125	US20060536708	20060929
US7679253 BB	20100316	US20060536708	20060929

Priority:

US20010443441 20010522	US20020056890 20020124	US20020265529 20021007
US20020324319 20021219	US20030454996P 20030314	US20030443441 20030522
US20030443650 20030522	US20030443644 20030522	US20030723527 20031126
US20040767022 20040129	US20040848909 20040519	US20040850012 20040519
US20040899338 20040726	US20040914374 20040809	US20040988386 20041110
US20060536708 20060929		

Probable Assignee: REMY TECHNOLOGIES LLC

Assignee(s): (std): VISTEON GLOBAL TECH INC ; VISTEON GLOBAL TECHNOLOGIES INC ; VISTON GLOBAL TECHNOLOGIES INC ; WESTON WORLDWIDE TECHNOLOGY CO ; WESTON WORLDWIDE TECHNOLOGY CORP

Assignee(s): BANK OF AMERICA NA ADMINISTRATIVE AGENT AS ; BANK OF NEW YORK MELLON ADMINISTRATIVE AGENT AS ; BANK OF NEW YORK MELLON AS ADMINISTRATIVE AGENT ; BORGWARNER INC ; CHEN HANYANG BEN ; JPMORGAN CHASE BANK ; JPMORGAN CHASE BANK NA ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS ; M AND M KNOPF AUTO PARTS LLC ; MORGAN STANLEY SENIOR FUNDING INC AGENT AS ; NEET KIRK E ; POWER INVESTMENTS INC ; PUBLITECH INC ; REMAN HOLDINGS LLC ; REMY ALTERNATORS INC ; REMY INC ; REMY INDIA HOLDINGS INC ; REMY INT HOLDINGS INC ; REMY INT INC ; REMY KOREA HOLDINGS LLC ; REMY POWER PRODUCTS LLC ; REMY REMAN LLC ; REMY SALES INC ; REMY TECHNOLOGIES LLC ; UNIT PARTS CO ; VC AVIATION SERVICES LLC ; VISTEON CORP ; VISTEON ELECTRONICS CORP ; VISTEON EUROPEAN HOLDING INC ; VISTEON EUROPEAN HOLDINGS INC ; VISTEON GLOBAL TREASURY INC ; VISTEON INT BUSINESS DEVELOPMENT INC ; VISTEON INT HOLDINGS INC ; VISTEON SYSTEMS LLC ; WELLS FARGO CAPITAL FINANCE LLC AGENT AS ; WESTERN REMAN INDUSTRIAL INC ; WILMINGTON TRUST FSB ADMINISTRATIVE AGENT AS ; WILMINGTON TRUST FSB AS ADMINISTRATIVE AGENT ; WORLD WIDE AUTOMOTIVE LLC

Inventor(s): (std): BRAMSON ERIC D ; CHEN HANYANG BEN ; HARPENAU KEVIN R ; HARPENAU KEVIN ROY ; NEET KIRK E ; NITEN C E ; YOCKES STEVEN J ; YOCKEY STEVEN J ; YOCKEY STEVEN JOHN ; YORK MICHAEL TIMOTHY

Inventor(s): C E NITEN ; ERIC D BRAMSON ; HARPENAU KEVIN ; KEVIN ROY HARPENAU ; KIRK E NEET ; NEET KIRK ; STEVEN J YOCKEY ; STEVEN JOHN YOCKEY ; YORK MICHAEL

Agent(s): BRINKS HOFER GILSON AND LIONE; BRINKS HOFER GILSON AND LIONE CHICAGO COOK; BRINKS HOFER GILSON AND LIONE/CHICAGO/COOK; CABINET NUSS; MACMILLAN SOBANSKI AND TODD LLC; VISTEON

26) Family number: 10763259 (EP0762617 A1)

© PatBase

Title: ALTERNATOR FOR VEHICLE

Abstract: An alternator for a vehicle has a pair of Lundell type magnetic poles (9) each provided with a plurality of claw-
PatBase PDF Export - Page: 18 12/02/2021

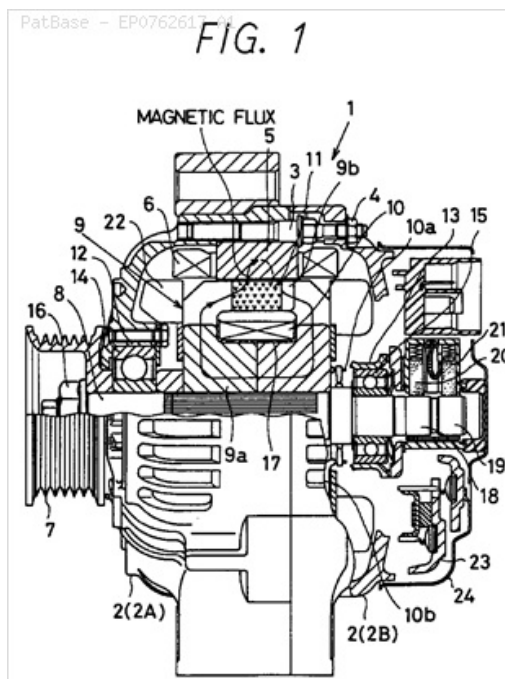
shaped pole pieces (9b) and permanent magnets (11) each disposed between a space formed by opposed side surfaces of the circumferentially adjacent claw-shaped pole pieces (9b) and magnetized so that the respective polarities of its circumferentially opposite ends are the same as those of the claw-shaped pole pieces. Each permanent magnet is disposed so that the ratio of the length of the permanent magnet (11) to the length of the space formed between the claw-shaped pole pieces (9b) is in the range of 50 percent to 80 percent.

Classifications:

International (ipc 8-9): H02K1/22 H02K1/27 H02K15/03 H02K19/16 H02K19/22 H02K21/00 H02K21/04

International (ipc 1-7): H02K1/27 H02K15/03 H02K19/22 H02K21/04

CPC: H02K21/044



Family:

Publication number	Publication date	Application number	Application date
■ CN1068989 C	20010725	CN19961010916	19960810
■ CN1152206 A	19970618	CN19961010916	19960810
■ DE69601847 D1	19990429	DE19966001847T	19960801
■ DE69601847 T2	19991125	DE19966001847T	19960801
■ EP0762617 A1	19970312	EP19960112455	19960801
■ EP0762617 B1	19990324	EP19960112455	19960801
■ JP3709582 B2	20051026	JP19950205427	19950811
■ JP9056128 A2	19970225	JP19950205427	19950811
■ KR100259595 B1	20000615	KR19960033186	19960809
■ KR970013574 A	19970329	KR19960033186	19960809

Priority:

JP19950205427 19950811

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP ; NIPPON DENSO CO

Assignee(s): DENSO CORP KARIYA ; DENSO CORP KARIYA AICHI JP ; HIPONDENSO CO ; HIPONDENSO CO LTD ; NIPPON DENSO CO LTD

Inventor(s): (std): ISHIKAWA HIROAKI

Inventor(s): HIROAKI ISHIKAWA ; ISHIKAWA HIROAKI KARIYA CITY AICHI PREF 448 JP

Designated states: DE FR GB IT

27) Family number: 54699327 (US2013229080 AA)

© PatBase

Title: ROTARY CONTINUOUS PERMANENT MAGNET MOTOR

Abstract: A rotary magnetic motor having a rotor configured to magnetically interact with a stator to obtain rotation of the rotor about its axis. The stator has a magnetic structure of a generally involute shape around the axis of rotation. The stator magnetic structure has a plurality of permanent magnets defining a first magnetic face of a first polarity. The rotor has a magnetic structure of a generally circular shape around the axis and inside the stator magnetic structure. The rotor has a plurality of permanent magnets defining a second magnetic face of a second polarity. The magnetic attraction and repulsing of the aligned magnetic faces with a progressively narrowing radial gap, resulting from the involute shape, rotate the rotor inside the stator. A magnetic pulse mechanism discharges a magnetic pulse of the first polarity to provide an additional pull to continue the rotation of the rotor through its full cycle.

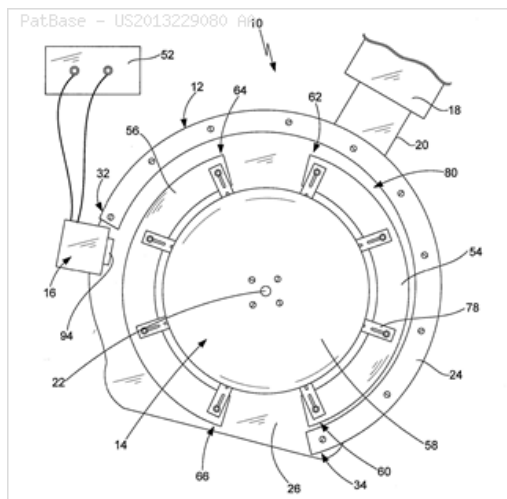
Classifications:

International (ipc 8-9): H02K1/06 H02K21/00 H02K21/12

H02K21/14 H02K21/18

CPC: H02K1/06 H02K21/00 H02K21/12 H02K21/14 H02K21/18

US: 310/152 310/216.092 1/1



Family:

Publication number	Publication date	Application number	Application date
US2013229080 AA	20130905	US20120411588	20120304
US9577500 BB	20170221	US20120411588	20120304

Priority:

US20120411588 20120304

Probable Assignee:

HAWRAN JEREMY

Assignee(s): (std):

JONES ARNOLD

Assignee(s):

HAWRAN JEREMY

Inventor(s): (std):

JONES ARNOLD

Agent(s):

LARIVIERE GRUBMAN PC

28) Family number: 34024909 (US2006284580 AA)

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Title: ELECTRIC ROTATING MACHINE

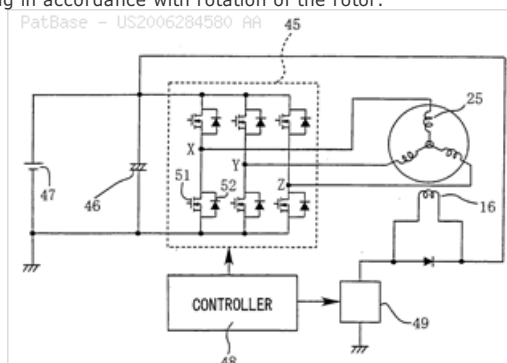
Abstract: The electric rotating machine includes a rotor and an armature. The rotor consists of a cylindrical part having a field winding and a claw-pole shaped magnetic pole part. A magnetic short-circuit mechanism is disposed between the magnetic pole parts adjacent each other in circumferential direction of a rotor core so as to cause a magnetic plate of a material of high magnetic permeability to move toward radial direction of the rotor core, thereby short-circuiting between N-pole and S-pole of a permanent magnet due to centrifugal force acting in accordance with rotation of the rotor.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K19/02 H02K19/10 H02K19/16 H02K19/22 H02K19/36 H02K21/00 H02K21/04 H02P7/00

CPC: H02K11/048 H02K21/044

US: 310/156.16 310/156.17 310/156.66 310/263 318/268 318/268P



Family:

Publication number	Publication date	Application number	Application date
JP2006320116 A2	20061124	JP20050140458	20050513
JP4291298 B2	20090708	JP20050140458	20050513
US2006284580 AA	20061221	US20060431609	20060511
US7589449 BB	20090915	US20060431609	20060511

Priority:

JP20050140458 20050513

Probable Assignee:

mitsubishi denki kk

Assignee(s): (std):

MITSUBISHI DENKI KABUSHIKI KAS ; MITSUBISHI ELECTRIC CORP

Assignee(s):

MITSUBISHI DENKI KABUSHIKI KAISHA ; MITSUBISHI DENKI KABUSHIKI KASHIHA ; MITSUBISHI DENKI KK

Inventor(s): (std):

KITAMURA YUTAKA

Agent(s):

SUGHRUE MION PLLC

29) Family number: 33036689 (US2006113861 AA)

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Title: MOTOR VEHICLE AC GENERATOR HAVING A ROTOR INCORPORATING A FIELD WINDING AND PERMANENT MAGNETS

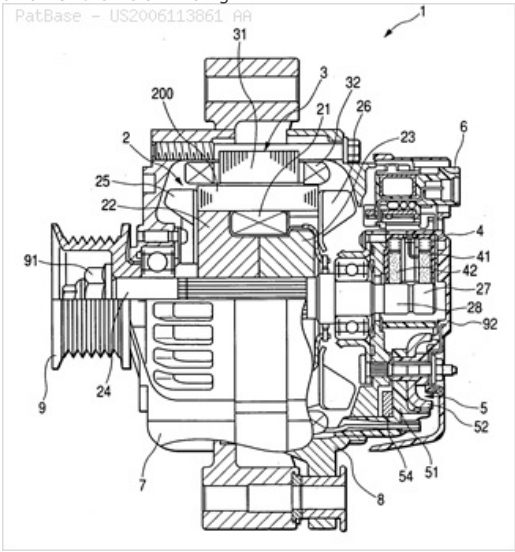
Abstract: In a vehicle AC generator, the rotor has two pole pieces that axially enclose a field winding, while a tubular stacked-lamination core formed of axially stacked magnetic laminations is mounted with its inner circumference in contact with outer circumferences of the pole pieces. A plurality of axially extending elongated permanent magnets each magnetized in the circumferential direction are implanted in the stacked-lamination core, with adjacent permanent magnets polarized in opposite directions, so that axially extending circumferentially alternating N and S rotor poles are formed at the outer circumferential surface of the stacked-lamination core by the magnetic flux of the field winding.

Classifications:

International (IPC 8-9): H02K1/22 H02K19/16 H02K19/22 H02K21/00

CPC: H02K19/22 H02K21/044 H02K9/06

US: 310/263



Family:

Publication number	Publication date	Application number	Application date
FR2878660 A1	20060602	FR20050012093	20051129
JP2006158147 A2	20060615	JP20040348371	20041201
US2006113861 AA	20060601	US20050272873	20051115

Priority:

JP20040348371 20041201

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP

Inventor(s): (std): KUSASE ARATA ; KUSASE SHIN ; MUKAI TAKUZO ; MUKAI TAKUZOU

Agent(s): OLIFF AND BERRIDGE PLC

30) Family number: 11893829 (US5994802 A)

© PatBase

Title: AC generator for vehicle

Abstract: A stator winding is composed of a first and second of three-phase windings. Each of them has three separate Y-connected or DELTA -connected coils which are wound on the teeth of the stator core at a $2\pi/3$ short pitch. The second three-phase winding is shifted from the first winding by $\pi/3$ radian in the electric angle which is one tooth pitch.

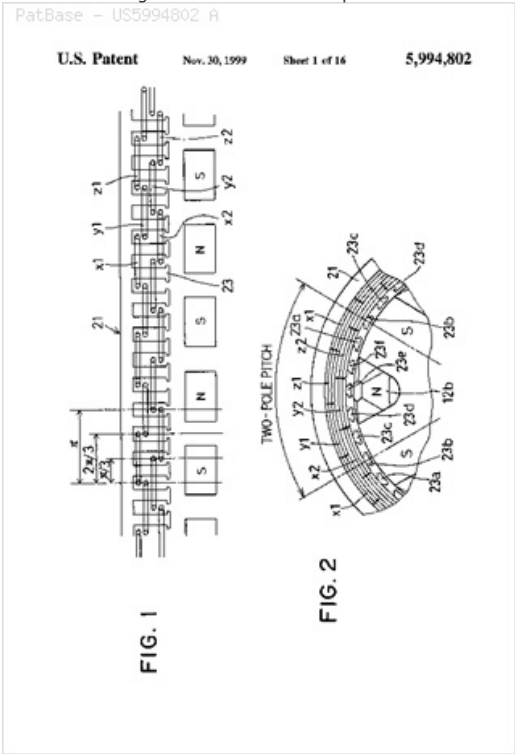
Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/32 H02K19/16 H02K19/22 H02K21/00 H02K21/04 H02K21/14 H02K3/28

International (IPC 1-7): H02K1/22 H02K1/24 H02K19/22 H02K21/14 H02K3/28

CPC: H02K1/325 H02K21/044 H02K3/28

US: 310/156 310/254.1 310/261 310/263 310/51



Family:

Publication number	Publication date	Application number	Application date
 JP3351258 B2	20021125	JP19960243417	19960913
 JP9154266 A2	19970610	JP19960243417	19960913
 US5994802 A	19991130	US19960722882	19960926

Priority:

JP19950249025 19950927 JP19960243417 19960913

Probable Assignee: DENSO CORP**Assignee(s):** (std): DENSO CORP**Inventor(s):** (std): KUSASE ARATA ; KUSASE SHIN ; SHICHIJIYOU AKICHIKA ; SHICHIJOY AKIYA**31) Family number: 12458389** (US6104118 A)

© PatBase

Title: Alternating current generator for use in vehicle

Abstract: A rotor 2 comprises of a pair of claw shape magnetic poles 3N and 3S and plural permanent magnets 5. The permanent magnet 5 is arranged between claw portions of the claw shape magnetic poles 3N and 3S. A permanent magnet fly-out prevention member 61 is arranged at an outer periphery of the claw shape magnetic poles 3N and 3S and prevents the fly-out of the permanent magnet 5 when the rotor 2 rotates. A permanent magnet holding member 62 holds the permanent magnet 5 from an inner periphery side. In a construction in which the permanent magnet fly-out prevention member 61 is arranged between the claw portions of the claw shape magnetic poles 3N and 3S, the working operation for arranging the permanent magnet 5 between the claw portions of the claw shape magnetic poles 3N and 3S can be improved, thereby a vehicle use AC generator having an improved electric power generation efficiency can be provided.

Classifications:**International (IPC 8-9):** H02K1/22 H02K19/16 H02K19/24

H02K21/00 H02K21/04

International (IPC 1-7): H02K1/22 H02K1/27 H02K19/24 H02K21/00

H02K21/04

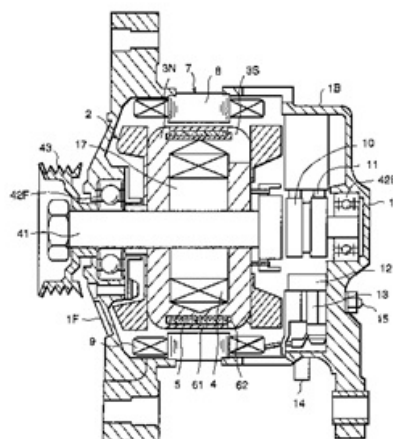
CPC: H02K21/044**US:** 310/181 310/263

PatBase - US6104118 A

U.S. Patent

Aug. 15, 2000

Sheet 1 of 7

6,104,118**FIG. 1****Family:**

Publication number	Publication date	Application number	Application date
 DE19909813 A1	19990909	DE19991009813	19990305
 JP11318064 A2	19991116	JP19990058057	19990305
 JP3663958 B2	20050622	JP19990058057	19990305
 KR19990077581 A	19991025	KR19990007065	19990304
 US6104118 A	20000815	US19990262864	19990305

Priority:JP19980053326 19980305 JP19980054710 19980306 KR19990007065 19990304
JP19990058057 19990305**Probable Assignee:** HITACHI LTD**Assignee(s):** (std): HITACHI LTD**Assignee(s):** HITACHI**Inventor(s):** (std): HONDA YOSHIKI ; KANAZAWA HIROSHI ; KANAZAWA HIROYUKI ; MITA MASAHIRO ; TAHARA KAZUO ; TAKANO MASAMI ; TAWARA KAZUO**32) Family number: 15386073** (US6333582 BA)

© PatBase

Title: ROTOR FOR AN ALTERNATOR

Abstract: A rotor has plural reinforcing bodies each approximately formed in a U-shape having wing portions arranged in

both side portions of an attaching portion of a flat plate shape, and disposed such that the attaching portion faces to each of inner circumferential wall surfaces of claw-shaped magnetic poles and the wing portions are located on both sides of the claw-shaped magnetic poles in the circumferential direction; and plural magnets each fixedly attached to both wing portions of each of the reinforcing bodies and disposed on both sides of the claw-shaped magnetic poles in the circumferential direction, for reducing leaked magnetic flux between the claw-shaped magnetic poles adjacent to each other, wherein a multidegree of freedom vibrating system composed of the claw-shaped magnetic poles and the reinforcing bodies fixedly attaching the magnets thereto is constructed by attaching each of the reinforcing bodies in a state in which at least one portion of the attaching portion is fixedly attached to the inner circumferential wall surfaces of each of the claw-shaped magnetic poles.

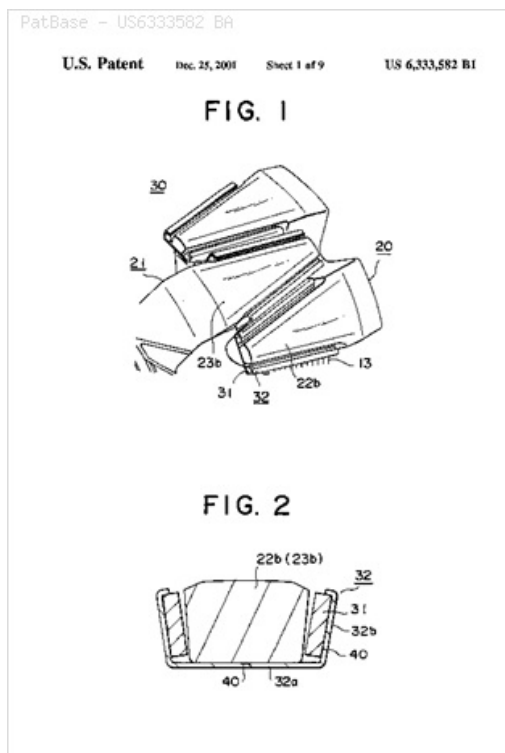
Classifications:

International (IPC 8-9): H02K1/22 H02K15/02 H02K19/16 H02K19/22 H02K21/00 H02K21/04

International (IPC 1-7): H02K1/22 H02K15/02 H02K19/22 H02K2/114 H02K21/04 H02K21/14

CPC: H02K21/044

US: 310/156.66 310/263



Family:

Publication number	Publication date	Application number	Application date
DE60032871 D1	20070222	DE20006032871T	20000613
DE60032871 T2	20070830	DE20006032871T	20000613
EP1117168 A2	20010718	EP20000111904	20000613
EP1117168 A3	20040519	EP20000111904	20000613
EP1117168 B1	20070110	EP20000111904	20000613
JP2001197712 A2	20010719	JP20000002504	20000111
JP3541934 B2	20040714	JP20000002504	20000111
KR100382578 B1	20030501	KR20000053372	20000908
KR20010070061 A	20010725	KR20000053372	20000908
US6333582 BA	20011225	US20000585550	20000602

Priority:

JP20000002504 20000111

Probable Assignee: MITSUBISHI DENKI KK

Assignee(s): (std): MITSUBISHI ELECTRIC CORP

Assignee(s): MITSUBISHI DENKI K K ; MITSUBISHI DENKI KABUSHIKI KAISHA

Inventor(s): (std): ADACHI KATSUMI ; ASAO YOSHIHITO ; ASAO YOSHITO ; HIGASHINO KYOKO ; HIKASHINO KYOKO ; TONO KYOKO ; TSURUHARA KENJI

Inventor(s): KATSUMI ADACHI ; KENJI TSURUHARA ; KYOKO HIGASHINO ; YOSHIHITO ASAO

Agent(s): SUGHRUE MION PLLC

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

33) Family number: 29085726 (US2003178909 AA)

© PatBase

Title: ROTARY ELECTRIC MACHINE

Abstract: A rotary electric machine is composed of an armature core, an armature winding, a rotor core disposed opposite said armature core, a rotary magnetic-flux source for supplying first magnetic flux to the rotor core, a frame for supporting the armature core and the rotor core and a stationary magnetic flux source, fixed to the frame, for supplying second magnetic flux to the rotor core in a direction to supplement the first magnetic flux.

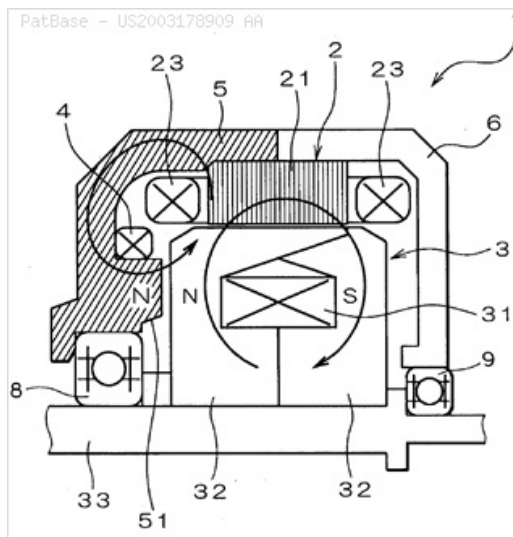
Classifications:

International (IPC 8-9): H02K1/27 H02K19/02 H02K19/12 H02K19/16 H02K19/22 H02K19/26 H02K21/00 H02K21/04 H02K21/12

International (IPC 1-7): H02K1/12 H02K1/22 H02K1/27 H02K19/12 H02K19/26 H02K2/110 H02K21/00 H02K21/04 H02K21/10 H02K21/12 H02K3/00

CPC: H02K19/22 H02K19/26 H02K21/044 H02K21/048

US: 310/156.53 310/156.66 310/181 310/181S 310/184 310/184P 310/254 310/254.1 310/254.100P 310/263 310/263S 310/266 322/50



Family:

Publication number	Publication date	Application number	Application date
JP2003284303 A2	20031003	JP20020077774	20020320
JP3829742 B2	20061004	JP20020077774	20020320
JP2003319627 A2	20031107	JP20020117775	20020419
JP3838146 B2	20061025	JP20020117775	20020419
US2003178909 AA	20030925	US20030390906	20030319
US6794790 BB	20040921	US20030390906	20030319
US2004195925 AA	20041007	US20040829166	20040422
US6922000 BB	20050726	US20040829166	20040422

Priority:

JP20020077774 20020320 JP20020117775 20020419 US20030390906 20030319
US20040829166 20040422

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP

Inventor(s): (std): KUSASE ARATA ; KUSASE SHIN ; MUKAI TAKUZO ; MUKAI TAKUZOU

Inventor(s): SHIN KUSASE ; TAKUZOU MUKAI

Agent(s): OLIFF AND BERRIDGE PLC

34) Family number: 34193340 (EP1750356 A1)

© PatBase

Title: STATOR FOR ROTARY ELECTRIC MACHINE

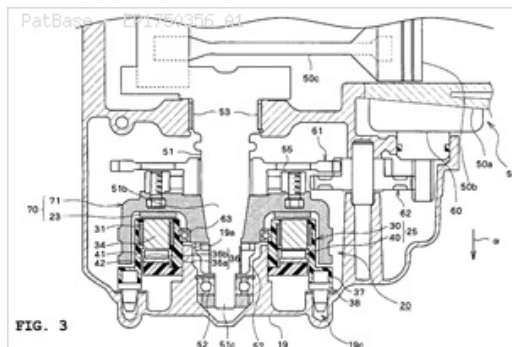
Abstract: The invention relates to a stator for an axial gap type rotary electric machine which is opposed to a rotor in a direction of an axis of a rotating shaft, comprising an annular first stator having a plurality of first teeth and an annular second stator having a plurality of second teeth opposed to the first teeth in the direction of the axis, the second stator being rotatable about the axis, wherein a coil is wound around each of the first teeth. The first stator has a contacted surface with which the second stator is in direct or indirect contact, regulating a distance in the direction of the axis between a surface of the first stator in which the first teeth are buried, and a surface of the second stator in which the second teeth are buried. The invention also relates to a stator for a radial gap machine.

Classifications:

International (IPC 8-9): B60K6/02 B60L11/14 B60L50/16 B62M7/00 B62M7/12 H02K21/00 H02K21/12 H02K21/24 H02K7/10 H02K7/116 H02K7/12 H02K7/18

International (IPC 1-7): H02K21/14 H02K7/116

CPC: Y02T10/641 Y02T10/7077 B60L2200/12 B60L2200/22 B60L2220/14 B60L2220/16 B60L2220/46 B60L2220/50 B60L50/16 H02K1/182 H02K1/185 H02K21/16 H02K21/24 Y02T10/64 Y02T10/7072 B60K6/26 B60Y2200/12 B62K2202/00 B62K2204/00 B62M7/12 H02K21/028



Family:

Publication number	Publication date	Application number	Application date
CN1909335 A	20070207	CN200610104267	20060807
CN1909335 B	20100407	CN200610104267	20060807
CN1909338 A	20070207	CN200610110632	20060804
EP1750356 A1	20070207	EP20060016370	20060804
EP1750356 B1	20110216	EP20060016370	20060804
EP1750357 A1	20070207	EP20060016374	20060804
ES2359417 T3	20110523	ES20060016370T	20060804
IN00727KO2006 A	20070629	IN2006KO00727	20060720
IN245289 B	20110114	IN2006KO00727	20060720
JP2007068387 A2	20070315	JP20060058651	20060303

JP5089892 B2	20121205	JP20060058651	20060303
JP2007068388 A2	20070315	JP20060058652	20060303
JP4802014 B2	20111026	JP20060058652	20060303
TH63263 B	20180626	TH20061002621	20060607
TH83384 A	20070301	TH20061002621	20060607
TH67763 B	20190128	TH20061002799	20060616
TH85187 A	20070621	TH20061002799	20060616
TW200711269 A	20070316	TW20060123074	20060627
TWI343691 B	20110611	TW20060123074	20060627
TW200731642 A	20070816	TW20060128576	20060804
TWI332307 B	20101021	TW20060128576	20060804

Priority:

JP20050228944 20050805 JP20060058651 20060303 JP20060058652 20060303

Probable Assignee: YAMAHA MOTOR CO LTD

Assignee(s): (std): YAMAHA MOTOR CO LTD ; YAMAHA MOTOR CORP

Assignee(s): YAMAHA HATSUDOKI KABUSHIKI KAISHA ; YAMAHA HATSUDOKI KK ; YAMAHA MOTOR CO

Inventor(s): (std): HARUYOSHI HINO ; HINO HARUYOSHI ; HINO YOUJI ; MASUMI HINO HARUYOSHI NAKAJIMA ; MASUMI NAKAJIMA ; NAKAJIMA MASUMI

Inventor(s): HINO HARUYOSHI NAKAJIMA MASUMI

Agent(s): GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAUESSER ANWALTSSOZIETAET; HARUKA PATENT AND TRADEMARK ATTORNEYS

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 MK NL PL PT RO SE SI SK TR YU

35) Family number: 41729370 (US2010096941 AA)

© PatBase

Title: DYNAMOELECTRIC MACHINE

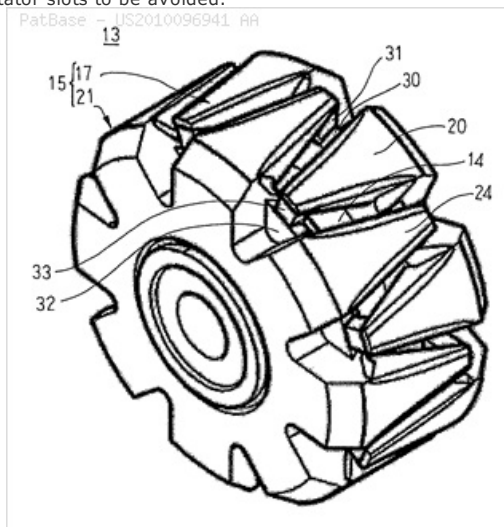
Abstract: A dynamoelectric machine including first and second permanent magnets held by first and second magnet seats on first and second yoke portions so as to face inner circumferential surfaces of tip end portions of first and second claw-shaped magnetic pole portions. The first and second permanent magnets are magnetically oriented in a reverse direction to orientation of a magnetic field that the field coil produces. The dynamoelectric machine enables permanent magnet holding reliability to be increased, induced voltage during no-load de-energization to be suppressed, and thermal demagnetization of magnets due to high-frequency magnetic fields that are induced by stator slots to be avoided.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K19/16 H02K19/22 H02K19/24 H02K21/00 H02K21/04 H02K21/12 H02K21/14

CPC: H02K21/044

US: 310/156.66 310/156.67 310/156.71 310/156.72 310/181 310/181P 310/263 310/263S



Family:

Publication number	Publication date	Application number	Application date
CN101523708 A	20090902	CN200780038050	20070309
CN101523708 B	20110727	CN200780038050	20070309
EP2073361 A1	20090624	EP20070738125	20070309
EP2073361 A4	20121031	EP20070738125	20070309
EP2073361 B1	20170809	EP20070738125	20070309
JP4755256 B2	20110824	JP20080538572	20070309
JP2008044347 A1	20100204	JP20080538572T	20070309
JP4755256 B1	20110824	JP20080538572T	20070309
US2010096941 AA	20100422	US20070444975	20070309
US7843107 BB	20101130	US20070444975	20070309
WO08044347 A1	20080417	WO2007JP54640	20070309

Priority:

JP20060276346 20061010 WO2007JP54640 20070309 JP20080538572 20070309

Probable Assignee: MITSUBISHI ELECTRIC CORP

Assignee(s): (std): AKITA HIROYUKI ; HAZEYAMA MORIYUKI ; INOUE MASAYA ; ITO KEIICHI ; KOMETANI HARUYUKI ; MITSUBISHI ELECTRIC CORP ; MIYAMOTO YOSHINORI ; MORI TAKESHI ; MORITA MASAO ; NISHIMURA SHINJI ; SHINKAWA KANJI ; YOSHIZAWA TOSHIYUKI

Inventor(s): (std): AKITA HIROYUKI ; HARUYUKI KOMETANI ; HAZEYAMA MORIYUKI ; HIROYUKI AKITA ; INOUE MASAYA ; ITO KEIICHI ; KANJI SHINKAWA ; KEIICHI ITO ; KOMETANI HARUYUKI ; MASAO MORITA ; MASAYA INOUE ; MIYAMOTO YOSHINORI ; MORI TAKESHI ; MORITA MASAO ; MORIYUKI HAZEYAMA ;

NISHIMURA SHINJI ; SHINJI NISHIMURA ; SHINKAWA KANJI ; TAKESHI MORI ; TOSHIYUKI YOSHIZAWA ; YOSHINORI MIYAMOTO ; YOSHIZAWA TOSHIYUKI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; POPP EUGEN; SOGA MICHIHARU; SOGA MICHITERU ET AL

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 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 MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

36) Family number: 31171509 (US2004212273 AA)

© PatBase

Title: HEAT ENGINE AND GENERATOR SET INCORPORATING MULTIPLE GENERATORS FOR SYNCHRONIZING AND BALANCING

Abstract: The invention is two new ways of constructing a synchronous dynamo electric machine having either permanent magnet or electrically excited field poles and no active electrical or magnetic parts attached to the rotor. Also shown is a means of using one or more such machines connected to prime mover engines to synchronize rotation or dampen vibration within the engines as well as acting as a motor or generator. Further shown is a means of constructing a dynamo electric machine in a configuration which particularly suits application as an auxiliary alternator on an automotive piston engine.

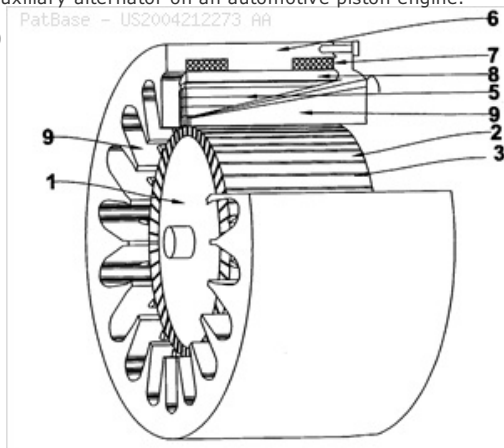
Classifications:

International (IPC 8-9): F16F15/10 F16F15/18 H02K19/16 H02K19/20 H02K21/00 H02K21/44 H02K7/00

International (IPC 1-7): H02K1/12

CPC: F16F15/18 H02K19/20 H02K21/44 H02K2201/15 H02K7/006

US: 310/254 310/254.1 310/254.100P 310/268 310/268S



Family:

Publication number	Publication date	Application number	Application date
US2004212273 AA	20041028	US20030421825	20030424

Priority:

US20030421825 20030424

Probable Assignee:

GOULD LEN CHARLES

Assignee(s):

GOULD LEN CHARLES

Inventor(s): (std):

GOULD LEN CHARLES

Inventor(s):

LEN CHARLES GOULD

37) Family number: 47450106 (US2010270885 AA)

© PatBase

Title: MAGNETIC DRIVEN MOTOR FOR GENERATING TORQUE AND PRODUCING ENERGY

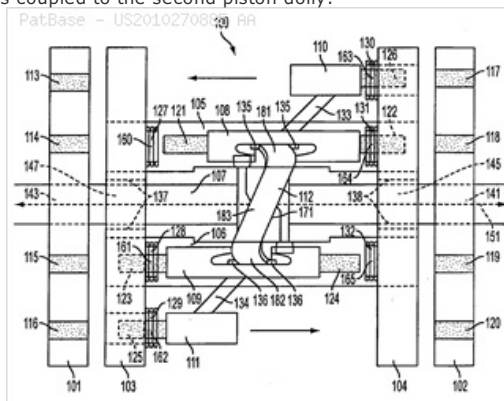
Abstract: The present invention relates generally to a motor that may generate torque and produce energy. The motor comprises a drive shaft configured to rotate about an axis, a first flywheel coupled to the drive shaft, a force transmission device coupled to the drive shaft, and a first shielding device coupled to the drive shaft and positioned between the first flywheel and the force transmission device. A first piston dolly is coupled to the force transmission device, the first piston dolly configured to move laterally along the axis of the drive shaft. A first magnetic device is coupled to the first piston dolly. In addition, a second piston dolly is also coupled to the force transmission device, the second piston dolly configured to move laterally along the axis of the drive shaft. A second magnetic device is coupled to the second piston dolly.

Classifications:

International (IPC 8-9): H02K21/00 H02K21/22 H02K7/02 H02N11/00

CPC: H02K53/00

US: 310/152 415/916 310/152P 415/916S



Family:

Publication number	Publication date	Application number	Application date
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US2010270885 AA	20101028	US20100766789	20100423
WO10124253 A2	20101028	WO2010US32297	20100423
WO10124253 A3	20110120	WO2010US32297	20100423

Priority:

US20090172171P 20090423 US20100766789 20100423

Probable Assignee: IZQUIERDO SANTIAGO OJEDA

Assignee(s): (std): IZQUIERDO SANTIAGO OJEDA

Inventor(s): (std): IZQUIERDO SANTIAGO OJEDA

Agent(s): SNELL AND WILMER LLP; SNELL AND WILMER LLP (OC); VAKIL KETAN S

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 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

38) Family number: 28182107 (US2002047448 AA)

© PatBase

Title: PERMANENT-MAGNET MOTOR-GENERATOR WITH VOLTAGE STABILIZER

Abstract: A motor-generator is disclosed, in which electromagnet coils are arranged at axially opposite ends of the stator, each to each end, while connections among winding sets are changed in response to the rpm of the rotor. This makes it possible to control the voltage, either at high speed or at low speed, thereby increasing the torque at low speed, or the torque on the rotor shaft at low speed and rendering the voltage stable. A rotor is comprised of a cylindrical magnetic path axially elongating to extent confronting the electromagnet coils, and a permanent-magnet member of more than one permanent-magnet piece extending axially over the magnetic path. The cylindrical magnetic path includes an N-pole annular portion confronting any one of the electromagnet coils, N-pole electromagnet magnetic paths stemming from the N-pole annular portion in opposition to N-poles of the permanent-magnet pieces, an S-pole annular portion arranged confronting another of the electromagnet coils, and S-pole electromagnet magnetic paths stemming from the S-pole annular portion in opposition to S-poles of the permanent-magnet pieces.

Classifications:

International (IPC 8-9): B60K6/00 B60K6/04 B60K6/20 B60K6/26 B60K6/40 B60K6/405 B60K8/00 B60W10/08 B60W20/00 H02K1/22 H02K1/24 H02K1/27 H02K21/00 H02K21/04 H02K21/14 H02K21/48 H02K3/28 H02P9/00 H02P9/48

International (IPC 1-7): B60K6/00 B60K8/00 G09B23/18 H02K1/00 H02K1/22 H02K1/24 H02K1/27 H02K2/114 H02K21/04 H02K21/14 H02K3/28 H02P9/48

CPC: B60K6/26 B60K6/405 B60W10/08 H02K21/048 H02K21/14 H02K21/48 H02K3/28 Y10S903/906 Y10S903/952

US: 310/156.22 310/181 310/19 310/190 310/263 903/906 903/942 903/952

PatBase - US2002047448 AA

Patent Application Publication Apr. 25, 2002 Sheet 1 of 10 US 2002/0047448 A1

FIG. 1

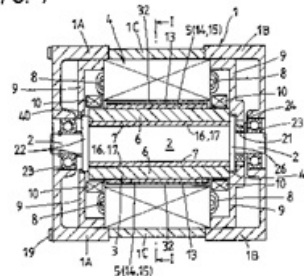
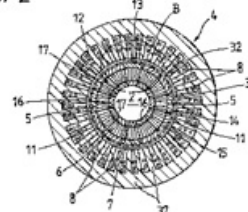


FIG. 2



Family:

Publication number	Publication date	Application number	Application date
DE60118124 D1	20060511	DE20016018124T	20010725
DE60118124 T2	20060831	DE20016018124T	20010725
DE60118124 T8	20070419	DE20016018124T	20010725
EP1233498 A2	20020821	EP20010306373	20010725
EP1233498 A3	20040331	EP20010306373	20010725
EP1233498 B1	20060322	EP20010306373	20010725
JP2000261995 A2	20000922	JP19990066012	19990312
JP3490330 B2	20040126	JP19990066012	19990312
JP2000354358 A2	20001219	JP19990162197	19990609
JP3499463 B2	20040223	JP19990162197	19990609
JP2002247819 A2	20020830	JP20010043103	20010220
JP3709145 B2	20051019	JP20010043103	20010220
US2002047448 AA	20020425	US20010922719	20010807
US6541887 BB	20030401	US20010922719	20010807

Priority:

JP19990066012 19990312 JP19990162197 19990609 JP20010043103 20010220

Probable Assignee: FINE CO LTD

Assignee(s): (std): KAWAMURA HIDEO
Assignee(s): FINE CO LTD
Inventor(s): (std): KAWAMURA HIDEO
Inventor(s): HIDEO KAWAMURA
Agent(s): BROWDY AND NEIMARK PLLC
Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

39) Family number: 31350556 (US2004232793 AA)

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Title: ROTARY ELECTRIC MACHINE FOR VEHICLE AND CONTROL DEVICE THEREOF

Abstract: The rotary electric machine includes an armature core constituting a stator having an armature coil for charging a vehicle battery with its output voltage; rotor cores disposed inside the armature core with a predetermined gap therebetween and made up of magnetic pole parts formed as claw poles so that adjacent magnetic poles are different and cylindrical parts carrying a field coil; and permanent magnets provided in the magnetic circuit of the rotor cores for supplying magnetic flux along with the field coil to the armature core. The magnetizing force of the permanent magnets with respect to the armature core is set so that at a predetermined speed the output voltage of the armature coil immediately after a field current passed through the field coil is returned to zero from the maximum magnetizing force exerted by the field current does not exceed the charging voltage of the battery.

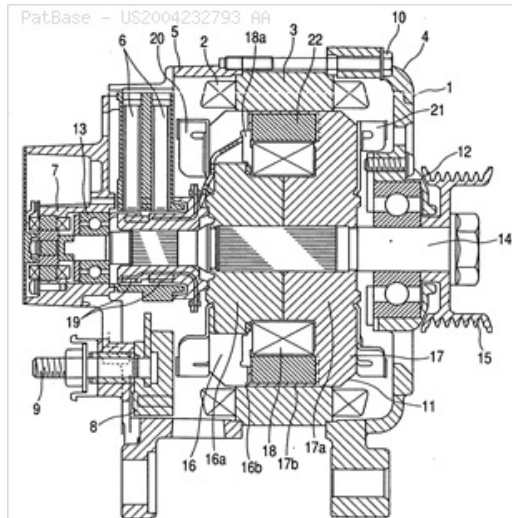
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International (IPC 8-9): H02J7/14 H02J7/16 H02K1/22 H02K1/27
H02K19/16 H02K19/22 H02K21/00 H02K21/04 H02P9/00 H02P9/14

International (IPC 1-7): H02J7/14 H02K1/27 H02K11/00 H02K19/22
H02K21/04 H02K21/12 H02K47/04 H02P9/00 H02P9/14

CPC: H02J7/1492 H02J7/166 H02K11/048 H02K21/044 Y02T10/70
Y02T10/92

US: 310/156.43 310/156.430P 310/261 310/261.1 310/68
310/68.00RS 310/68R 310/75 310/75.00RS 310/75R 322/50



Family:

Publication number	Publication date	Application number	Application date
DE102004023917 A1	200411223	DE200410023917	20040513
FR2855340 A1	20041126	FR20040050986	20040518
FR2855340 B1	20060728	FR20040050986	20040518
JP2004350358 A2	20041209	JP20030142354	20030520
JP4083071 B2	20080430	JP20030142354	20030520
US2004232793 AA	20041125	US20040838305	20040505
US6940197 BB	20050906	US20040838305	20040505

Priority:

JP20030142354 20030520

Probable Assignee: MITSUBISHI DENKI KK

Assignee(s): (std): MITSUBISHI ELECTRIC CORP

Assignee(s): MITSUBISHI DENKI K K ; MITSUBISHI DENKI K K TOKIO TOKYO ; MITSUBISHI DENKI K USHIKI
KAISHA AB ; MITSUBISHI DENKI KABUSHIKI KAISHA

Inventor(s): (std): ASAO YOSHIHITO ; ASAO YOSHITO ; FUJITA MASAHIKO ; FUJITA NOBUHIKO

Inventor(s): MASAHIKO FUJITA ; YOSHIHITO ASAO

Agent(s): BREVALEX; SUGHRUE MION PLLC

40) Family number: 33254457 (US2006186754 AA)

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Title: ROTATING ELECTRICAL MACHINE

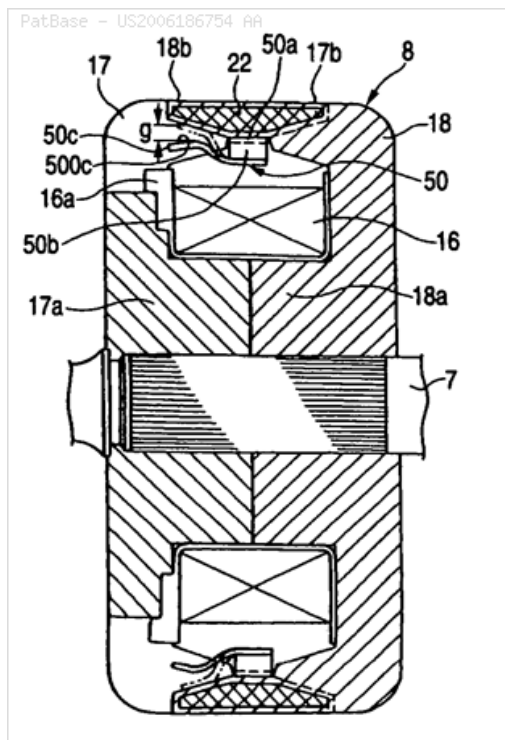
Abstract: Provided is a rotating electrical machine including an armature core on which an armature winding is wound; a rotor core which is supported by a rotation axis at a predetermined air gap in an inner diameter side of the armature core, and includes claw-shaped magnetic pole portions in which adjacent magnetic poles have different poles and a cylindrical portion having a field winding; and a permanent magnet which is provided in a magnetic circuit of the rotor core and supplies magnetic flux to the armature core with the field winding, wherein a magnetic short-circuiting mechanism for demagnetizing the magnetic flux of the permanent magnet by deforming a portion of the magnetic short-circuiting mechanism by a centrifugal force and short-circuiting between the magnetic pole portions of the rotor core is provided in the rotor core.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K19/16
H02K19/22 H02K21/00 H02K21/04 H02K21/12 H02K21/14

CPC: H02K21/028

US: 310/156.66 310/263 310/68R 310/156.660S 310/263P
310/68.00R



Family:

Publication number	Publication date	Application number	Application date
JP2006217752 A2	20060817	JP20050029161	20050204
JP4369377 B2	20091118	JP20050029161	20050204
US2006186754 AA	20060824	US20060342667	20060131
US7420312 BB	20080902	US20060342667	20060131

Priority:

JP20050029161 20050204

Probable Assignee: MITSUBISHI DENKI KK

Assignee(s): (std): MITSUBISHI ELECTRIC CORP

Assignee(s): MITSUBISHI DENKI KABUSHIKI KAISHA ; MITSUBISHI DENKI KK

Inventor(s): (std): AKITA HIROYUKI ; ASANO YOSHIHITO ; ASAO YOSHIHITO ; ASAO YOSHITO ; KITAMURA YUTAKA

Agent(s): SUGHRUE MION PLLC

41) Family number: 30292459 (US2004178696 AA)

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Title: VEHICLE ALTERNATOR AND ITS ROTOR

Abstract: (Subject The primary object of the present invention is to provide a vehicle alternator and its rotor which can firmly fasten the permanent magnets between the claw-shaped magnetic poles in improved productivity. (Means for Solving the Problems) The object is achieved by a rotor for a vehicle alternator comprising: a Randall type iron core having claw-shaped magnetic poles which are alternately arranged and opposed each other and include a centered cylindrical field winding; and a permanent magnet disposed between the claw-shaped magnetic poles for increasing the magnetic field, wherein the permanent magnet is held by radial elastic force.

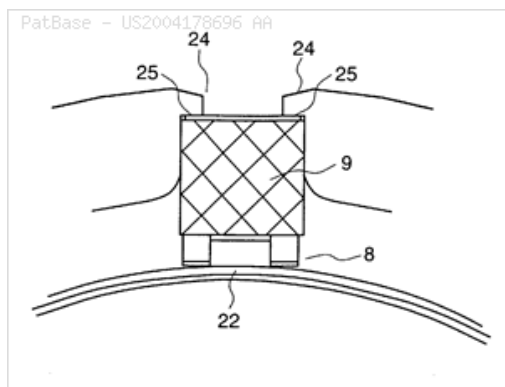
Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K19/16 H02K19/22 H02K21/00 H02K21/04

International (IPC 1-7): H02K1/22 H02K1/24 H02K1/27 H02K19/22 H02K19/26 H02K21/00 H02K21/04 H02K23/02 H02K9/00

CPC: H02K21/044

US: 310/156.66 310/156.72 310/181 310/263 310/181S 310/263P



Family:

Publication number	Publication date	Application number	Application date
DE10318636 A1	20040325	DE20031018636	20030424
DE10318636 B4	20141120	DE20031018636	20030424
JP2004007958 A2	20040108	JP20030065873	20030312
JP3743431 B2	20060208	JP20030065873	20030312
US2004178696 AA	20040916	US20030420883	20030423

Priority:

JP20020125189 20020426 JP20030065873 20030312

Probable Assignee: HITACHI LTD

Assignee(s): (std): HITACHI LTD

Inventor(s): (std): HONMA MASAHIKO ; HORIOKA KAZUO ; HORIOKA WASEI ; TAJIMA SUSUMU ; YAMAZAKI SHINJI

Inventor(s): MASAHIKO HONMA ; SHINJI YAMAZAKI ; SUSUMU TAJIMA ; WASEI HORIOKA

Agent(s): CROWELL AND MORING LLP

42) Family number: 3264001 (US4885493 A)

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Title: Output voltage control apparatus of a permanent magnet alternator

Abstract: A permanent magnet alternator including a flux diversion member resiliently and magnetically coupled to the permanent magnet rotor for rotation therewith, an auxiliary (control) permanent magnet rotor rigidly coupled to the flux diversion member for rotation therewith, an auxiliary stator disposed about the auxiliary rotor, and control means for variably loading the auxiliary stator to adjust the rotary position of the flux diversion member relative to the main permanent magnet rotor. The flux diversion member comprises a plurality of magnetic flux conducting vanes which coact with the rotor magnets such that variation of its rotary position relative to the rotary position of the permanent magnet rotor varies the stator flux, and hence the alternator output voltage.

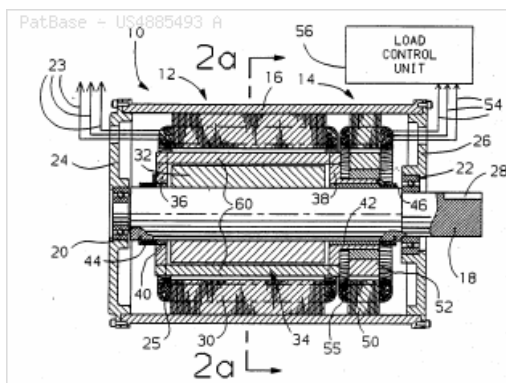
Classifications:

International (IPC 8-9): H02K21/00 H02K21/14

International (IPC 1-7): H02K21/40

CPC: H02K21/028 H02K21/14

US: 310/117 310/190 310/68D 322/51 310/68.00D



Family:

Publication number	Publication date	Application number	Application date
US4885493 A	19891205	US19880223328	19880725

Priority:

US19880223328 19880725

Probable Assignee: GEN MOTORS CORP

Assignee(s): (std): GEN MOTORS CORP

Assignee(s): GENERAL MOTORS A CORP OF DELAWARE CORP ; GENERAL MOTORS CORP

Inventor(s): (std): GOKHALE KALYAN P

43) Family number: 28198606 (US2002053855 AA)

© PatBase

Title: ALTERNATOR FOR VEHICLES HAVING PERMANENT MAGNETS IN ROTOR

Abstract: A brushless-type alternator has a rotor, which comprises a pair of pole cores. The pole cores include a plurality of nail parts, respectively. The nail parts are arranged alternately in a rotating direction of the rotor. The nail parts are coupled to each other with a non-magnetic ring. A permanent magnet is interposed between adjacent two of the nail parts, and fixedly held in position with the non-magnetic ring. The permanent magnets are located radially inside or outside the non-magnetic ring.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K15/02

H02K15/03 H02K19/16 H02K19/24 H02K21/00 H02K21/04 H02K3/04

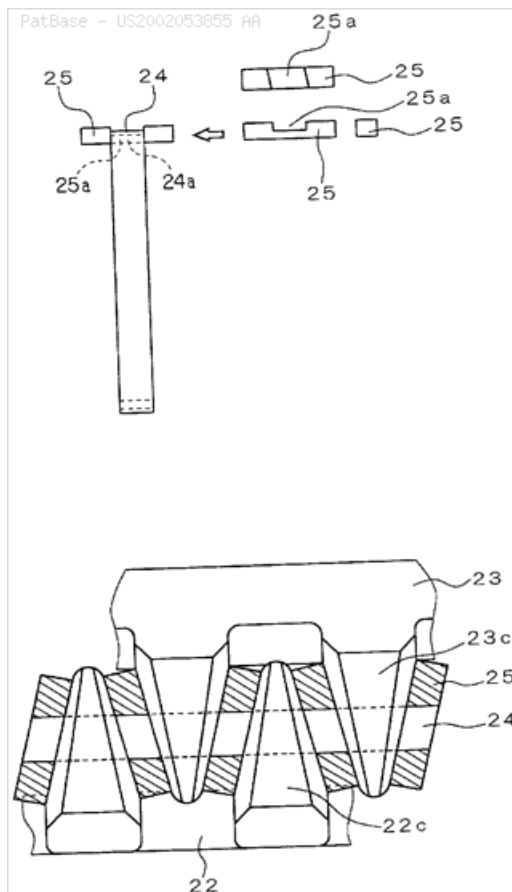
International (IPC 1-7): H02K1/22 H02K1/24 H02K1/27 H02K1/924

H02K15/02 H02K15/03 H02K19/24 H02K2/104 H02K21/04

H02K21/14 H02K3/04

CPC: H02K21/044

US: 310/263 310/91 310/263P 310/91S



Family:

Publication number	Publication date	Application number	Application date
DE10153578 A1	20020508	DE20011053578	20011031
DE10153578 B4	20120126	DE20011053578	20011031
FR2816458 A1	20020510	FR20010014344	20011106
FR2816458 B1	20051007	FR20010014344	20011106
JP2003052157 A2	20030221	JP20010340289	20011106
US2002053855 AA	20020509	US20010985132	20011101
US6661151 BB	20031209	US20010985132	20011101

Priority:

JP20000337842 20001106 JP20010161893 20010530 JP20010340289 20011106

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP

Assignee(s): DENSO CORP KARIYA

Inventor(s): (std): MURATA NAKAHITO ; MURATA NAKATO ; TAN YOSHIKI

Inventor(s): NAKATO MURATA ; YOSHIKI TAN

Agent(s): NOVAGRAAF BREVETS; OLIFF AND BERRIDGE PLC

44) Family number: 54380001 (BRPI1103595 A2)

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Title: ELECTRIC MOTOR IN PRINCIPLE blink electromagnetic (Machine translation)

Abstract: Source: BRPI1103595 A2 **Machine translation:** ELECTRIC MOTOR IN PRINCIPLE electromagnetic blink. The principle which operates by intermittency, where and provided a rotor (2) that can incorporate permanent magnets (8) electro-magnetic waves or coils (9), which operate in relation to a carcass (11) which represents a stator, which can incorporate at least one unit of an electromagnetic coil (9) or a Permanent Magnet (8), the activation of one or more electromagnetic coils (9) in order to determine the effect of creation of a mutual attraction or repulsion in relation to one or more other electromagnetic coils (9) or permanent magnets (8), occurs through the action of a relay (18) which operates through signal sent by a transmitter / Optical sensor (12) which emits a light beam (13) which can be interrupted by one of a group of planes of light obstruction (16) mounted on the rotor (2). This electric motor (1) operates by flashing the activation of electromagnetic coils (9) only at times when the alignment is the same with other coils corresponding electro-magnetic waves (9) or permanent magnets (8) in order to produce the rotation of the rotor (2).

Classifications:

International (IPC 8-9): H02K21/00 H02K37/12 H02K57/00

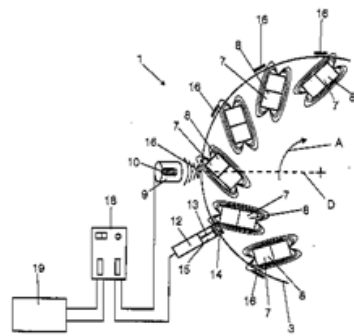


FIG.1

Family:

Publication number	Publication date	Application number	Application date
BRPI1103595 A2	20130716	BR2011PI03595	20110718

Priority:

BR2011PI03595 20110718

Probable Assignee:

CUNHA CARLYLE ANTONIO

Assignee(s): (std):

CUNHA CARLYLE ANTONIO

Assignee(s):

CARLYLE ANTONIO CUNHA

Inventor(s): (std):

CUNHA CARLYLE ANTONIO

Inventor(s):

CARLYLE ANTONIO CUNHA

45) Family number: 22992494 (FR1344606 A)

© PatBase

Title: ROTARY ELECTRIC GENERATOR (Machine translation)

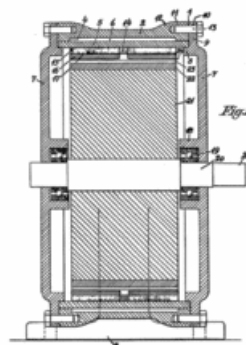
Abstract: Source: FR1344606 A **Machine translation:** (Claim 1) 1 **SUMMARY** T Generator electric rotary, characterized by the presence of permanent magnets.

Classifications:

International (IPC 8-9): H02K21/00 H02K21/38

CPC: H02K21/44

N° 1344606 M. Hermann 2 planches - Pl. 1



Family:

Publication number	Publication date	Application number	Application date
FR1344606 A	19631129	FR19620917155	19621130

Priority:

FR19620917155 19621130

Inventor(s): (std):

HERRMANN WALTER

46) Family number: 29456300 (US5397975 A)

© PatBase

Title: HYBRID ALTERNATOR

Abstract: A hybrid alternator includes a stator and a rotor, with the rotor having longitudinally separate wound field and permanent magnet rotor portions. A rotor excitation circuit applies a forward polarity to the wound field rotor portion to increase output in a boosting mode at low RPMs and a reverse polarity to decrease output at high RPMs in a bucking mode to maintain a constant voltage output. Alternative embodiments combine a magnetic flux concentrating design for efficient low speed operation with integral strength for high speed capability. Dual voltage output is provided either through dual stator windings or through a voltage converter circuit. Single voltage output is provided using only one stator winding.

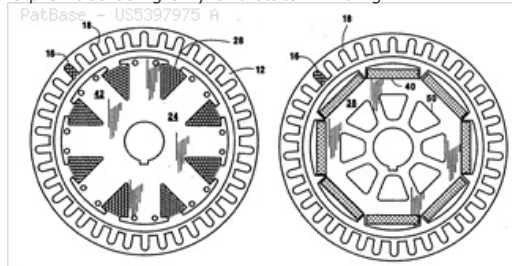
Classifications:

International (ipc 8-9): B60L11/02 B60L11/12 B60L50/15 F28D15/04 H01F41/00 H02H5/00 H02H5/04 H02H7/06 H02J1/00 H02J7/14 H02J7/16 H02J7/28 H02K H02K1/12 H02K1/20 H02K1/22 H02K1/24 H02K1/27 H02K11/00 H02K16/00 H02K16/02 H02K19/02 H02K19/10 H02K19/16 H02K19/22 H02K19/28 H02K19/36 H02K21/00 H02K21/04 H02K21/14 H02K21/26 H02K3/28 H02K3/50 H02K3/51 H02K9/02 H02K9/04 H02K9/06 H02M7/68 H02P21/12 H02P9/00 H02P9/08 H02P9/14 H02P9/30 H02P9/34

International (ipc 1-7): H02H7/06 H02J1/00 H02K1/00 H02K1/100 H02K1/20 H02K1/22 H02K1/24 H02K1/27 H02K11/20 H02K16/00 H02K16/02 H02K19/12 H02K19/22 H02K19/36 H02K21/00 H02K21/04 H02K21/12 H02K21/14 H02K21/26 H02K3/28 H02K9/04 H02M7/68 H02P21/12 H02P9/00 H02P9/08 H02P9/14 H02P9/30 H02P9/34

CPC: H02H7/067 H02J7/1423 H02J7/1438 H02J7/1461 H02J7/163 H02J7/28 H02K1/276 H02K1/278 H02K16/02 H02K19/103 H02K19/28 H02K21/042 H02P2101/45 H02P25/16 H02P9/305 H02K1/24 H02K1/2713 H02K1/2773 H02K16/00 H02K19/36 H02K19/365 H02K3/51 H02K9/02 H02K9/06 H02H5/042 H02H7/06 H02P9/006 Y02T10/70 B60L50/15 Y02T10/64 Y02T10/7072 Y02T10/641 Y02T10/642 Y02T10/7077

US: 310/114 310/115 310/156 310/156.49 310/156.53 310/156.55 310/156.56 310/181 310/216.016 310/216.094 310/261 310/263 310/266 310/58 322/28 322/29 322/46 322/49 322/59 322/6 322/89



Family:

Publication number	Publication date	Application number	Application date
AT184738 E	19991015	AT19940921936T	19940609
AU199472449 A1	19950117	AU19940072449	19940609
AU687847 B2	19980305	AU19940072449	19940609
AU199540104 A1	19960703	AU19950040104	19951026
AU199652583 A1	19961016	AU19960052583	19960321
BRPI9407030 A	19960319	BR1994PI07030	19940609
CA2165183 AA	19951213	CA19942165183	19940609
CA2216834 AA	19970929	CA19962216834	19960321
CN1063593 C	20010321	CN19941092442	19940609
CN1125496 A	19960626	CN19941092442	19940609
CN1065684 C	20010509	CN19961094287	19960321
CN1185868 A	19980624	CN19961094287	19960321
CZ329695 A3	19960515	CZ19950003296	19940609
CZ9503296 A3	19960515	CZ19950003296	19940609
DE69420743 D1	19991021	DE19946020743T	19940609
DE69420743 T2	20000518	DE19946020743T	19940609
DE69435035 D1	20071115	DE19946035035T	19940609
DE69435035 T2	20080703	DE19946035035T	19940609
EP0746896 A1	19961211	EP19940921936	19940609
EP0746896 A4	19970723	EP19940921936	19940609
EP0746896 B1	19990915	EP19940921936	19940609
EP0818077 A1	19980114	EP19960908889	19960321
EP0818077 A4	19990107	EP19960908889	19960321
EP0921621 A2	19990609	EP19990104217	19940609
EP0921621 A3	20010808	EP19990104217	19940609
EP0921621 B1	20071003	EP19990104217	19940609
HU76400 A2	19970828	HU19950003294	19940609
HU9503294 A0	19960129	HU19950003294	19940609
IL109994 A0	19941007	IL19940109994	19940613
IL115824 A0	19960119	IL19950115824	19951031
IL117673 A0	19960804	IL19960117673	19960327
JP3091768 B2	20000925	JP19950502871T	19940609
JP8505518 T2	19960611	JP19950502871T	19940609
JP2000517150 T2	20001219	JP19960529530T	19960321
JP11243674 A2	19990907	JP19980319885	19981023
JP3524783 B2	20040510	JP19980319885	19981023
KR19960703286 A	19960619	KR19950705679	19940609
KR960703286 A	19960619	KR19950705679	19951214
PL312041 A1	19960401	PL19940312041	19940609
RU96101183 A	19980520	RU19960101183	19960116
TR9701076 T1	19980221	TR19970001076T	19960321
TW234790 B	19941121	TW19940100176	19940111
TW434995 B	20010516	TW19940105333	19940611
TW288224 B	19961011	TW19950112025	19951114

TW330353 B	19980421	TW19960103984	19960405
US5397975 A	19950314	US19930077248	19930614
US5502368 A	19960326	US19940251530	19940606
US5656922 A	19970812	US19940355680	19941214
US5753989 A	19980519	US19950414350	19950331
US5631544 A	19970520	US19950459546	19950602
US5710471 A	19980120	US19950460037	19950602
US5693995 A	19971202	US19950510425	19950802
US5747909 A	19980505	US19960616106	19960314
US6236134 BA	20010522	US19970977906	19971125
WO9500996 A1	19950105	WO1994US06457	19940609
WO9619039 A1	19960620	WO1995US13750	19951026
WO9630992 A1	19961003	WO1996US03914	19960321
ZA9404193 A	19950208	ZA19940004193	19940614
ZA9602539 A	19961002	ZA19960002539	19960329

Priority:

US19930077248 19930614	US19940251530 19940606	WO1994US06457 19940609
EP19940921936 19940609	JP19950502871 19940609	US19940355680 19941214
US19940355680 19941219	US19950414350 19950331	US19950459546 19950602
US19950460037 19950602	US19950510425 19950802	WO1995US13750 19951026
US19960616106 19960314	WO1996US03914 19960321	US19970977906 19971125

Probable Assignee: ECOAIR CORP

Assignee(s): (std): ECOAIR CORP

Assignee(s): CURTISS WILLIAM P ; ECOAIR CORP NEW HAVEN ; ECOAIR CORPORATION ; FRANCIS WILLARD P ; SYVERSON CHARLES D ; YIKE YI CO

Inventor(s): (std): CHARLES D SYVERSON ; CHARLES SYVERSON ; CURTIS WILLIAM P ; CURTISS W P ; CURTISS WILLIAM ; CURTISS WILLIAM P ; FRANCIS W P ; FRANCIS WILLARD P ; LAVELLE WILLIAM J ; FRANCIS W P ; SYVERSON C D ; SYVERSON CHARLES ; SYVERSON CHARLES D ; WILLIAD P FRANCIS ; WILLIAM P CURTISS

Inventor(s): C D SYVERSON ; W P CURTISS ; W P FRANCIS ; W P PRANCIS ; WILLARD P FRANCIS ; WILLIAM J LAVELLE

Agent(s): CULLENS PATENT AND TRADE MARK ATTORNEYS; CULLENS PTY LTD; DELIO AND PETERSON LLC; RIDOUT AND MAYBEE LLP; SPRUSON AND FERGUSON

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ 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 SN SZ TD TG TJ TM TR TT UA UG UZ VN

47) Family number: 56824497 (US2015364968 AA)

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Title: DRIVE MECHANISM FOR ROTATABLY COUPLING A SYSTEM PART OR A MACHINE PART

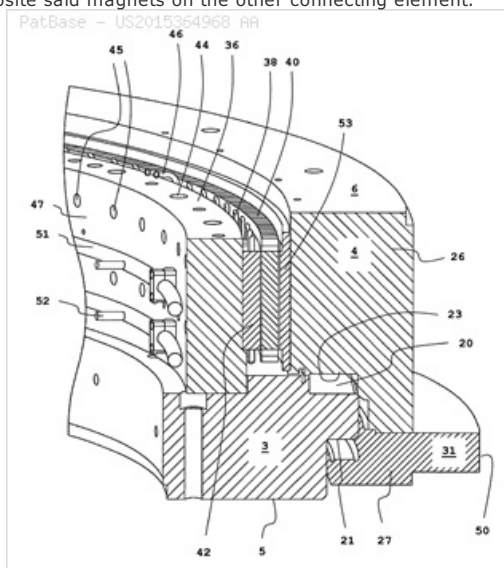
Abstract: The invention relates to a drive mechanism (1) for rotatably coupling a first system part or machine part, preferably an assembly (A), to a base, pedestal or frame or to another system part or machine part, for example for rotary positioning during the processing of large workpieces or during the moving of loads, which drive mechanism comprises two ring-shaped connecting elements (3, 4) each having at least one planar connecting surface (5, 6) and fastening means (7, 8) that are arranged distributed in a crown shape therein and effect connection to different system parts or machine parts or the like, said two connecting elements (3, 4) being arranged concentrically with each other and radially one inside the other with a gap-shaped interspace (9) in which are disposed one or more rows of rolling elements (14, 15, 16), each row whereof rolls between two respective raceways (17, 18) on the two connecting elements (3, 4), thus enabling same to rotate relative to each other, at least one connecting surface (5, 6) and at least one raceway (17, 18) being formed by machining or shaping a common base body. The invention is characterized in that at least one fully circumferentially extending row of magnets (40) is arranged inside the gap (9) on one connecting element (3, 4) and at least one fully circumferentially extending row of coils (38) is arranged directly opposite said magnets on the other connecting element (4, 3). According to the invention, at least one fully circumferentially extending row of magnets is arranged inside the gap on one connecting element and at least one fully circumferentially extending row of coils is arranged directly opposite said magnets on the other connecting element.

Classifications:

International (ipc 8-9): B66C23/84 E02F9/12 E02F9/20 F16C11/04 F16C19/38 F16C41/00 H01F38/14 H01F38/18 H02K11/00 H02K11/21 H02K21/00 H02K21/22 H02K3/28 H02K7/08 H02K7/09 H02K7/10 H02K7/102 H02K7/14

CPC: B66C23/84 E02F9/123 F16C19/381 F16C2300/02 F16C2300/14 F16C2322/39 F16C2350/26 F16C41/001 F16C41/004 H01F38/18 H02K11/21 H02K21/22 H02K7/088 H02K7/102 H02K7/14

US: 1/1 310/68B 310/68D 310/90



Family:

Publication number	Publication date	Application number	Application date
BR112015015725 A2	20170711	BR20151115725	20130807

CA2896141 AA	20150622	CA20132896141	20130807
CH709113 B1	20180713	CH20150000937	20130807
CN105143091 A	20151209	CN201380069477	20130807
DE102012025600 A1	20140703	DE201210025600	20121231
DE112013006319 A5	20150910	DE201311006319T	20130807
JP2016503282 T2	20160201	JP20150549989T	20130807
JP6276782 B2	20180207	JP20150549989T	20130807
RU2015131860 A	20170202	RU20150131860	20130807
US2015364968 AA	20151217	US20130758691	20130807
US9793776 BB	20171017	US20130758691	20130807
WO14101910 A2	20140703	WO2013DE000448	20130807
WO14101910 A3	20150618	WO2013DE000448	20130807

Priority:

DE201210025600 20121231 WO2013DE000448 20130807 WO2013DE000448 20130807

Probable Assignee: IMO HOLDING GMBH

Assignee(s): (std): IMO HOLDING GMBH

Assignee(s): DIETZ VOLKER ; FRANK HUBERTUS

Inventor(s): (std): DIETZ VOLKER ; FRANK HUBERTUS ; HUBERTUS FRANK ; VOLKER DIETZ

Agent(s): KUECHLER STEFAN T; MACRAE AND CO; PANDISCIO AND PANDISCIO

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 HW HN HR HU ID IE IL IN 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

48) Family number: 8199821 (DE4010376 A1)

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Title: RING SPINNER SPINDLE DRIVE - HAS THREE PHASE SYNCHRONOUS MOTOR WITH PERMANENTLY ENERGISED ROTOR FOR CONTROL THROUGH SWITCHES

Abstract: Drive system, esp. as an individual spindle drive has a three-phase synchronous motor (1) with a permanently energised rotor. Controlled switches (S1,S2,S3) are operated by the drive control (3) so that, with the required high torque in the start-up and shut-down phase, all three phases are switched through from the frequency converter (2) to the three-phase coils (W1,W2,W3) in a star or delta configuration. To increase the working with the required low torque on normal operation, one of the three phase coils is disconnected from the corresp. phase after the required working speed has been achieved. Rotor is radially permanently energised to increase the holding action when the motor is at rest, and the holding action can be reinforced by applying DC to the three-phase coils. Frequency and amplitude of the phase voltage from the frequency converter (2) are varied for the three-phase system on start-up, shut-down, acceleration or braking of the motor, and they can be adjusted by the drive control (3). Short circuit is applied to the three-phase coils (W1,W2,W3) by the switches (S1,S2,S3) to stop the motor (1). USE/ADVANTAGE - For the workstation of a ring spinner. Mechanism gives a controlled drive for the spindle, with detection of drive faults, and prevents uncontrolled rotation when the spindle is at rest.

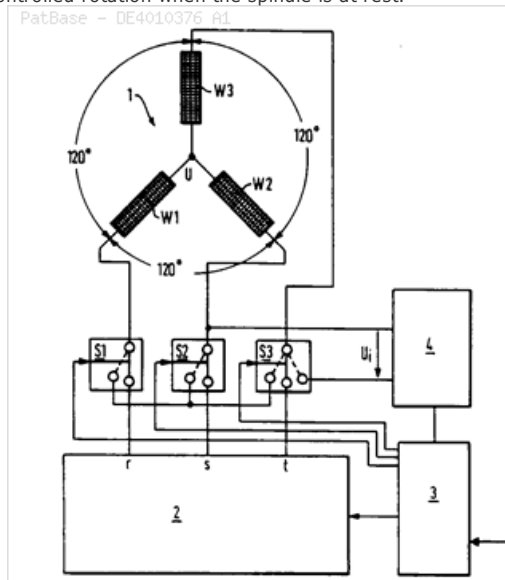
Classifications:

International (IPC 8-9): D01H1/00 D01H1/244 H02K21/00

H02K21/02 H02K21/14 H02K21/16 H02P25/02 H02P25/03 H02P5/74

International (IPC 1-7): D01H1/244 H02K21/00 H02P3/18 H02P7/44 H02P7/74

CPC: D01H1/244 H02K21/02 H02P25/03 H02P5/74 H02K21/14 H02K21/16



Family:

Publication number	Publication date	Application number	Application date
DE4010376 A1	19911002	DE19904010376	19900330
DE4010376 C2	19931209	DE19904010376	19900330
DE4017442 A1	19911212	DE19904017442	19900530

Priority:

DE19904010376 19900330 DE19904017442 19900530

Probable Assignee: WARBINEK KURT PROF DR ING

Assignee(s): (std): WARBINEK KURT PROF DR ING

Assignee(s): WARBINEK KURT PROF DR ING 73054 EISLINGEN DE ; WARBINEK KURT PROF DR ING 7332 EISLINGEN DE

Inventor(s): (std): WARBINEK KURT PROF DR ING

Title: MOTOR GENERATOR DEVELOPING LOW TORQUE AT HIGH-SPEED REVOLUTIONS WITHOUT COGGING

Abstract: A motor generator is disclosed, comprising a cylindrical controller member(7) arranged between a permanent-magnet member(5) and a stator core(15). Circumferentially moving the cylindrical controller member(7) relatively of a stator core(15) contributes to achieving a low torque at high-speed revolutions with no occurrence of cogging. The cylindrical controller member (7) is supported in a frame(1) for relative rotation inside the stator core(15) and composed of permeable pieces(17) and non-permeable pieces(18), which alternate in arrangement circularly. The cylindrical controller member(7) is moved circumferentially by means of a stepping motor(8) according to the operational phase of the rotor(3). To get the rotor generator stopped, the permeable pieces(17) of the cylindrical controller member (7) are moved to an angular position where they face adjacent teeth(20) of the stator core(15) across slots(21) formed between the adjacent teeth(20), allowing the magnetic flux from the permanent-magnet member(5) to pass uniformly in the circumferential direction to thereby suppressing the occurrence of cogging.

Classifications:

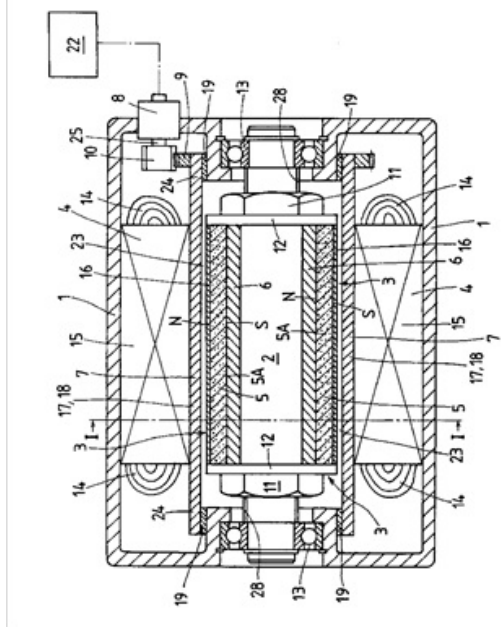
International (IPC 8-9): H02K1/16 H02K21/14 H02K29/03 H02K3/48 H02K3/487 H02K7/10 H02K7/116 H02K7/12

International (IPC 1-7): H02K1/16 H02K21/00 H02K3/487 H02K7/116

CPC: H02K1/16 H02K11/048 H02K21/14 H02K29/03 H02K3/487 H02K7/12

PatBase - EP1035635 A2

FIG. 1



Family:

Publication number	Publication date	Application number	Application date
EP1035635 A2	20000913	EP20000301949	20000309
JP2000261988 A2	20000922	JP19990066150	19990312

Priority:

JP19990066150 19990312

Probable Assignee: ISUZU CERAMICS RES INST

Assignee(s): (std): ISUZU CERAMICS RES INST

Assignee(s): ISUZU CERAMICS RES INST CO LTD ; ISUZU CERAMICS RESEARCH INST CO ; ISUZU CERAMICS RESEARCH INSTITUTE CO ; ISUZU CERAMICS RESEARCH INSTITUTE CO LTD

Inventor(s): (std): KAWAMURA HIDEO

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

Title: DYNAMOELECTRIC MACHINE

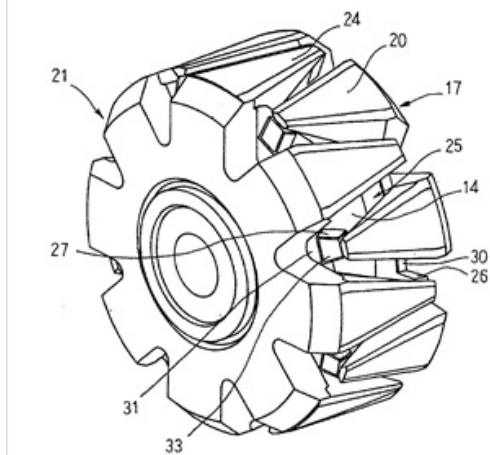
Abstract: A dynamoelectric machine includes first and second magnet seat portions disposed to project from portions of first and second yoke portions that face respective inner circumferential surfaces near tip ends of second and first claw-shaped magnetic pole portions, and magnet housing portions disposed integrally to extend axially outward from outer circumferential portions of a pair of flange portions of a bobbin, extend near the first and second yoke portions that face the inner circumferential surfaces near the tip ends of the first and second claw-shaped magnetic pole portions, and be held by the first and second magnet seat portions. First and second permanent magnets are housed and held in the first and second magnet housing portions, are disposed to face the inner circumferential surfaces near the tip ends of the second and first claw-shaped magnetic pole portions, and the first and second permanent magnets are respectively magnetically oriented in a reverse direction to a direction of a magnetic field that the field coil produces.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K1/28 H02K15/03 H02K19/22 H02K21/00 H02K21/04 H02K21/12

CPC: H02K21/044

US: 310/156.12 310/156.120P 310/181 310/181S 310/194 310/263 310/263S

**Family:**

Publication number	Publication date	Application number	Application date
JP5047294 B2	20121010	JP20090530005	20080326
JP2009028228 A1	20101125	JP20090530005T	20080326
JP5047294 B1	20121010	JP20090530005T	20080326
US2010207476 AA	20100819	US20080670917	20080326
US8148864 BB	20120403	US20080670917	20080326
WO09028228 A1	20090305	WO2008JP55687	20080326

Priority:

JP20070221110 20070828 WO2008JP55687 20080326 JP20090530005 20080326

Probable Assignee: MITSUBISHI ELECTRIC CORP

Assignee(s): (std): AKITA HIROYUKI ; HAZEYAMA MORIYUKI ; INOUE MASAYA ; MITSUBISHI ELECTRIC CORP ; MORITA MASAO ; MURATA NORIHIRO ; NISHIMURA SHINJI ; SHINKAWA KANJI ; YOSHIZAWA TOSHIYUKI

Inventor(s): (std): AKITA HIROYUKI ; HAZEYAMA MORIYUKI ; INOUE MASAYA ; MORITA MASAO ; MURATA NORIHIRO ; NISHIMURA SHINJI ; SHINKAWA KANJI ; YOSHIZAWA TOSHIYUKI

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; SOGA MICHIMARU; SOGA MICHIMARU ET AL

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 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 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 PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

51) Family number: 29382633 (US5625276 A)

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Title: CONTROLLER FOR PERMANENT MAGNET GENERATOR

Abstract: A generator according to the disclosure includes a control system for regulating the output of the generator. The generator, such as a permanent magnet generator, includes multiple windings. For high current applications, the windings are connected in parallel. For high voltage applications, each three-phase set of windings is connected in series. The various windings may be selectively and individually activated by the control system to achieve a desired output current or voltage.

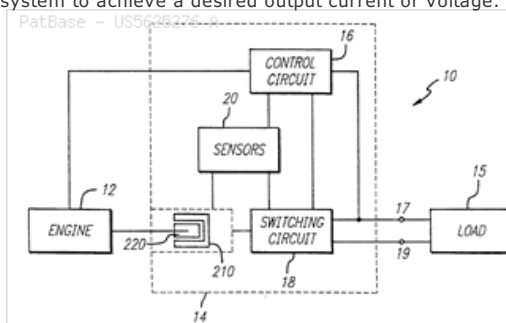
Classifications:

International (IPC 8-9): B23K9/073 B23K9/10 F02B63/00 F02B63/04 F02B75/00 F02B75/16 H02K1/14 H02K1/27 H02K11/04 H02K21/00 H02K21/22 H02K21/48 H02K29/00 H02K3/28 H02K5/00 H02K7/18 H02M3/00 H02M7/48 H02M7/483 H02M7/539 H02P9/00 H02P9/04 H02P9/10 H02P9/14 H02P9/30 H02P9/48

International (IPC 1-7): B23K9/073 F02B63/04 H02H3/06 H02H7/122 H02K1/14 H02K1/27 H02K11/04 H02K21/02 H02K21/12 H02K21/22 H02K21/48 H02K29/00 H02K3/00 H02K3/28 H02K5/00 H02K7/18 H02M7/48 H02M7/5387 H02M7/539 H02P09/14 H02P9/00 H02P9/04 H02P9/10 H02P9/14 H02P9/30 H02P9/44 H03L

CPC: F02B2063/045 F02B2063/046 F02B63/04 F02B63/044 F02B75/16 F05C2201/021 H02K1/278 H02K1/2786 H02K11/046 H02K21/48 H02K3/28 H02K7/1815 H02P2101/45 H02P25/188 H02P9/04 H02P9/30 B23K9/1062 H02P9/305 H02P9/48 H02P9/107 H02P9/14 H02M7/483

US: 290/1A 290/40.00B 290/40B 290/49 290/51 310/114 310/156 310/156.01 310/156.21 310/156.28 310/179 310/184 310/50 322/1 322/14 322/15 322/24 322/25 322/29 322/32 322/46 322/90

**Family:**

Publication number	Publication date	Application number	Application date
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EP0786167 A1	19970730	EP19950938774	19951010
EP0786167 A4	19980520	EP19950938774	19951010
EP0964510 A2	19991215	EP19990116273	19950908
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EP0964509 A2	19991215	EP19990116275	19950908
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KR19977006639 A	19971103	KR19977001696	19950908
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MX9701921 A1	19980531	MX19970001921	19950908
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WO9807224 A1	19980219	WO1997US13974	19970812
WO9807230 A1	19980219	WO1997US13978	19970812
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ZA9507683 A	19960422	ZA19950007683	19950913
ZA9508562 A	19960825	ZA19950008562	19951011

Priority:

US19940306120	19940914	US19940322012	19941011	US19950370577	19950101
US19950370577	19950109	WO1995US11361	19950908	EP19950931755	19950908
WO1995US13356	19951010	US19960695558	19960812	US19960752230	19961119
US19970843576	19970416	US19970888374	19970703	US19970887908	19970703
WO1997US13974	19970812	WO1997US13978	19970812	US19990227552	19990108

Probable Assignee: POWERMATE CORP

Assignee(s): (std): ANDERSON WILLIAM J ; COLEMAN POWERMATE INC ; PANDYA KANDARP I ; SCOTT HAROLD C ; SUN CHIPING

Assignee(s): ACTIVE TECHNOLOGIES INC ; BEDNORZ ARDEL R ; COLEMAN POWERMATE ; CONGRESS FINANCIAL (FLORIDA) COLLATERAL AGENT AS C ; CONGRESS FINANCIAL (FLORIDA) COLLATERAL AGENT AS CORP ; CONGRESS FINANCIAL CORP ; CONGRESS FINANCIAL FLORIDA COLLATERAL AGENT AS CORP ; DAVIS MITCHELL K ; FCC LLC D B A FIRST CAPITAL A FLORIDA LLC ; FIRST UNION NATIONAL BANK ADMINISTRATIVE AGENT AS ; FIRST UNION NATIONAL BANK AS ADMINISTRATIVE AGENT ; GENERAL ELECTRIC CAPITAL CORP ; JOHNSON G WEYLIN ; POWERMATE CORP ; PRAMAC AMERICA LLC ; PRAMAC IND ; PRAMAC IND INC ; TALLY HENRY

Inventor(s): (std): ANDERSON J ; ANDERSON WILLIAM ; ANDERSON WILLIAM J ; BEDNORZ ARDEL R ; BEDNORZ R ; DAVIS K ; DAVIS MITCHELL K ; JOHNSON G ; JOHNSON G WEYLIN ; JOHNSON WEYLIN G ; JPHNSON WEYLIN G ; PANDYA KANDARP I ; SCOTT C ; SCOTT HAROLD C ; SUN CHIPING ; TALLY HENRY

Inventor(s): ARDEL R BEDNORZ ; CHIPING SUN ; G WEYLIN JOHNSON ; HAROLD C SCOTT ; HENRY TALLY ; KANDARP I PANDYA ; MITCHELL K DAVIS ; WILLIAM J ANDERSON

Agent(s): FB RICE ; FB RICE PTY LTD ; GOWLING LAFLEUR HENDERSON LLP ; GOWLING WLG CANADA LLP

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

52) Family number: 32785539 (US2007228866 AA)

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Title: ROTARY ELECTRIC MACHINE FOR VEHICLES

Abstract: An on-vehicle rotary electric machine, such as AC generator, is provided. The machine comprises a rotary shaft, a pole core, plural magnetic poles, plural permanent magnets, and plural holding members. The magnetic poles are located at intervals in a circumferential direction and passing magnetic flux between two mutually-adjacent of the magnetic poles. Each permanent magnet intervenes between the two magnetic poles and is magnetized to reduce leakage of the magnetic flux to be passed. Each holding member holds each permanent magnet between the two magnetic poles. Each holding member is secured on the two magnetic poles and has a first plate portion enclosing a radially outer surface of each permanent magnet and two second plate portions enclosing side surfaces of each permanent magnet. The two second plate portions are rigidly coupled to the first plate portion and are lower in rigidity than the first plate portion.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/27 H02K1/28 H02K15/03

Family:

Publication number	Publication date	Application number	Application date
 CN100583597 C	20100120	CN200510124986	20050930
 CN1770594 A	20060510	CN200510124986	20050930
 DE602005038855 D1	20130529	DE200560038855T	20050930
 EP1643615 A1	20060405	EP20050021501	20050930
 EP1643615 B1	20130403	EP20050021501	20050930
 JP2006109573 A2	20060420	JP20040290659	20041001
 JP4396471 B2	20100113	JP20040290659	20041001
 KR100813918 B1	20080318	KR20050092676	20051001
 KR20060051983 A	20060519	KR20050092676	20051001
 US2007228866 AA	20071004	US20050240566	20051003
 US7605518 BB	20091020	US20050240566	20051003

Priority:

JP20040290659 20041001 EP20050021501 20050930

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP ; ENSO CORP

Assignee(s): ANCESTRYCOM OPERATIONS INC ; BANK OF AMERICA NA ; BANK OF AMERICA NA ADMINISTRATIVE
AGENT AS ; DENSO KARIYA CITY CORP

Inventor(s): (std): NAKAMURA SHIGENOBU ; SHIGENOBU NAKAMURA

Inventor(s): NAKAMURA SHIGENOBU C O DENSO CORP

Agent(s): KUHNEN AND WACKER; KUHNEN AND WACKER PATENT U RECHTSANWALTSBUERO; OLIFF AND BERRIDGE PLC

Designated states: DE FR GB IT

Title: ROTATIONAL MACHINE

Abstract: A rotational machine which improves the reliability of the permanent magnets provided between claw poles by preventing shift in an axial direction during operation of the rotational machine. A stator and a rotor supported rotatably on an inner periphery of the stator are provided. The rotor has a pair of claw poles disposed in an alternately opposed orientation and having cylindrical field exciting coils on a central section. A permanent magnet is disposed between the claw poles. A holder retains the permanent magnets to a fixed position. The holder retains the permanent magnets between the claw poles by pressing on a side face of the claw poles as a result of an elastic force acting with respect to the rotational direction of the rotational machine.

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K1/28
H02K19/16 H02K19/22 H02K21/00 H02K21/04

CPC: H02K21/044

US: 310/156.22

Family:

Publication number	Publication date	Application number	Application date
EP2141783 A2	20100106	EP20090161359	20090528
EP2141783 A3	20110824	EP20090161359	20090528
JP2010016958 A2	20100121	JP20080173839	20080702

Priority:

JP20080173839 20080702

Probable Assignee: HITACHI LTD

Assignee(s): (std): HITACHI AUTOMOTIVE SYSTEMS LTD ; HITACHI LTD

Inventor(s): (std): BABA YUICHIRO ; TAJIMA SUSUMU ; TAKANO MASAMI

Agent(s): CROWELL AND MORING LLP INTELLECTUAL PROPERTY GROUP; CROWELL AND MORING LLP,INTELLECTUAL PROPERTY GROUP; ERNY TOBIAS

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 MK MT NL NO PL PT RO RS SE SI SK TR

54) Family number: 13534468 (US6531799 BA)

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Title: HYBRID ELECTRIC MACHINE WITH TWO ROTORS, PERMANENT MAGNET POLES AND CONTROLLABLE FIELD CURRENT

Abstract: An electric machine or assembly 10 including a housing 12, a stationary stator 14, two substantially identical and opposed rotors 16, 18, and a pair stationary field coils 22, 24. Field coils 22, 24 are selectively energizable to controllably vary the flux generated by assembly 10, thereby allowing assembly 10 to provide a relatively constant output torque, power, or voltage over a relatively wide range of operating speeds.

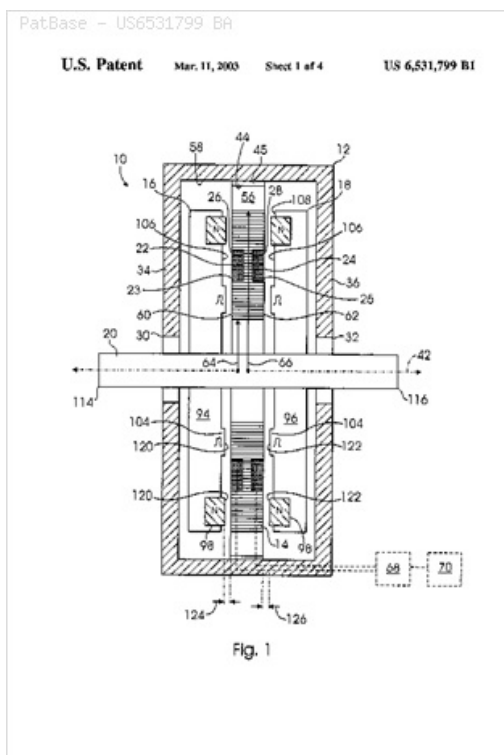
Classifications:

International (IPC 8-9): H02K21/00 H02K21/04 H02K21/12 H02K21/24

International (IPC 1-7): F02N11/04 H02K1/22 H02K1/600 H02K1/926 H02K1/938 H02K16/00 H02K16/02 H02K19/26 H02K19/38 H02K2/112 H02K21/12 H02K21/24 H02K4/700 H02K47/00 H02K6/02

CPC: H02K21/046 H02K21/24

US: 310/112 310/114 310/156.43 310/156.48 310/156.49 310/156.53 310/181 310/268



Family:

Publication number	Publication date	Application number	Application date
GB200030374 A0	20010124	GB20000030374	20001213
GB2360140 A1	20010912	GB20000030374	20001213
GB2360140 B2	20041110	GB20000030374	20001213
US6531799 BA	20030311	US19990467463	19991220

Priority:

US19990467463 19991220

Probable Assignee: FORD GLOBAL TECHNOLOGIES INC

Assignee(s): (std): FORD GLOBAL TECH INC ; FORD GLOBAL TECH LLC ; FORD GLOBAL TECHNOLOGIES LLC

Assignee(s): FORD GLOBAL TECHNOLOGIES INC ; FORD MOTOR CO

Inventor(s): (std): MILLER JOHN MICHAEL

Inventor(s): JOHN MICHAEL MILLER

55) Family number: 23439299 (US2003011257 AA)

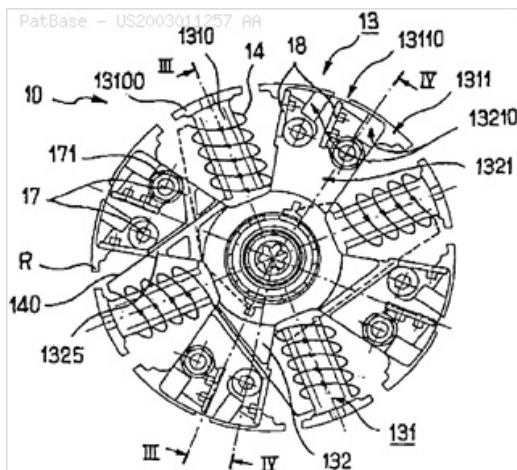
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Title: ROTARY MACHINE FOR MOTOR VEHICLE

Abstract: The invention relates to a rotating electric machine, especially an alternator or alternator/starter for motor vehicles, including a stator surrounding a rotor (10) equipped with a pack of metal plates, a gap between the stator and the rotor, permanent magnets integrated into the rotor and excitation coils (14) integrated into the rotor, in which the excitation coils are wound around salient poles (1310) cut out in the pack of metal plates of the rotor, and the permanent magnets are accommodated in housings (13110) formed in the pack of plates of the rotor and open towards the periphery of the rotor, characterized in that the housings (13110) are closed axially at each of their ends by a non-magnetic retaining piece (13) equipped with a part intended to come into abutment with the magnets, and in that the retaining piece features recesses for accommodations [sic] of the buns of the excitation coils (14).

Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K19/16 H02K19/22 H02K21/00 H02K21/04 H02K3/04 H02K3/24 H02K3/46 H02K3/52 H02K9/04
International (IPC 1-7): H02K1/06 H02K1/24 H02K1/27 H02K19/22 H02K21/04 H02K21/04 H02K3/24 H02K3/52 H02K5/00 H02K9/02
CPC: H02K11/048 H02K21/042 H02K2203/06 H02K3/527 H02K9/06
US: 310/181 310/194 310/195 310/62 310/63 310/71 310/91 310/91P



Family:

Publication number	Publication date	Application number	Application date
DE60244116 D1	20130124	DE20026044116	20020107
EP1362407 A1	20031119	EP20020710949	20020107
EP1362407 B1	20121128	EP20020710949	20020107
FR2819350 A1	20020712	FR20010000122	20010105
FR2819350 B1	20030411	FR20010000122	20010105
JP2004517594 T2	20040610	JP20020554946T	20020107
JP4148460 B2	20080910	JP20020554946T	20020107
KR20020081395 A	20021026	KR20027011603	20020107
MXPA02008750 A1	20030224	MX2002PA08750	20020107
US2003011257 AA	20030116	US20020204542	20020822
US6784586 BB	20040831	US20020204542	20020822
WO02054566 A1	20020711	WO2002FR00037	20020107

Priority:

FR20010000122 20010105 WO2002FR00037 20020107 EP20020710949 20020107

Probable Assignee: VALEO EQUIPEMENTS ELECTRIQUES MOTEUR

Assignee(s): (std): AKEMAKOU DOKOU ANTOINE ; VALEO EQUIP ELECTR MOTEUR ; VALEO EQUIPEMENTS ELECTRIQUES MOTEUR

Assignee(s): AKEMAKOU ANTOINE DOKOU ; VALEO EQUIPEMENTS ELECTRIQUES MOTEUR

Inventor(s): (std): AKEMAKOU ANTOINE DOKOU ; AKEMAKOU DOKOU ANTOINE

Inventor(s): ANTOINE DOKOU AKEMAKOU

Agent(s): CABINET REGIMBEAU; GAMONAL DIDIER; LINIAK BERENATO AND WHITE

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT JP KR LU MC MX NL PT SE TR US

56) Family number: 30108797 (US2002117934 AA)

© PatBase

Title: VEHICULAR ALTERNATOR

Abstract: A vehicular alternator is provided which can effectively utilize the magnetic flux of a permanent magnet disposed between claw-type magnetic poles and can improve an output of the alternator. The vehicular alternator comprises a rotor and a stator constituted by coiling stator windings over a stator core, the rotor comprising a pair of claw-type magnetic poles arranged in an opposed relation, a permanent magnet disposed between adjacent two of a plurality of claws provided on the pair of claw-type magnetic poles, and field windings coiled radially inward of the plurality of claws. Each of the plurality of claws of the rotor is formed to have a shape coming into contact with the whole of a magnetic pole surface of the permanent magnet.

Classifications:

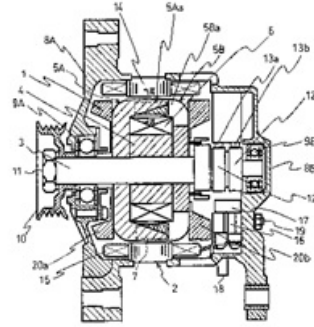
International (IPC 8-9): H02K1/22 H02K1/27 H02K15/03 H02K19/16 H02K19/22 H02K21/00 H02K21/04

International (IPC 1-7): H02K1/22 H02K1/27 H02K15/03 H02K19/22 H02K21/04

CPC: H02K21/044

US: 310/261 310/261.1 310/263

FIG. 1

**Family:**

Publication number	Publication date	Application number	Application date
DE60118515 D1	20060518	DE20016018515T	20010828
DE60118515 T2	20061130	DE20016018515T	20010828
EP1227566 A2	20020731	EP20010119779	20010828
EP1227566 A3	20040616	EP20010119779	20010828
EP1227566 B1	20060405	EP20010119779	20010828
JP2002262530 A2	20020913	JP20010053017	20010227
JP3740375 B2	20060201	JP20010053017	20010227
KR20020070068 A	20020905	KR20010052912	20010830
US2002117934 AA	20020829	US20010941655	20010830
US7057327 BB	20060606	US20010941655	20010830

Priority:

JP20010053017 20010227

Probable Assignee: HITACHI LTD**Assignee(s):** (std): HITACHI LTD

Inventor(s): (std): KANAZAWA HIROSHI ; KANAZAWA HIROYUKI ; KANAZAWA HITACHI ; KAWABATA HITACHI ; KAWABATA KAORU ; MAKI HITACHI ; MAKI KOHJI ; MAKI KOJI ; MIYATA HITACHI ; MIYATA KENJI ; SASAKI HITACHI ; SASAKI SUSUMU ; TAHARA HITACHI ; TAHARA KAZUO ; TAKAHATA HITACHI ; TAKAHATA RYOICHI ; TAWARA KAZUO

Inventor(s): HIROSHI KANAZAWA ; KANAZAWA ; KAORU KAWABATA ; KAWABATA ; KAZUO TAHARA ; KENJI MIYATA ; KOHJI MAKI ; MAKI ; MIYATA ; RYOICHI TAKAHATA ; SASAKI ; SUSUMU SASAKI ; TAHARA ; TAKAHATA

Agent(s): CROWELL AND MORING LLP**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR**57) Family number: 12284461** (DE19819480 A1)

© PatBase

Title: GENERATOR, ESPECIALLY FOR EXTRACTING BRAKE ENERGY IN VEHICLES

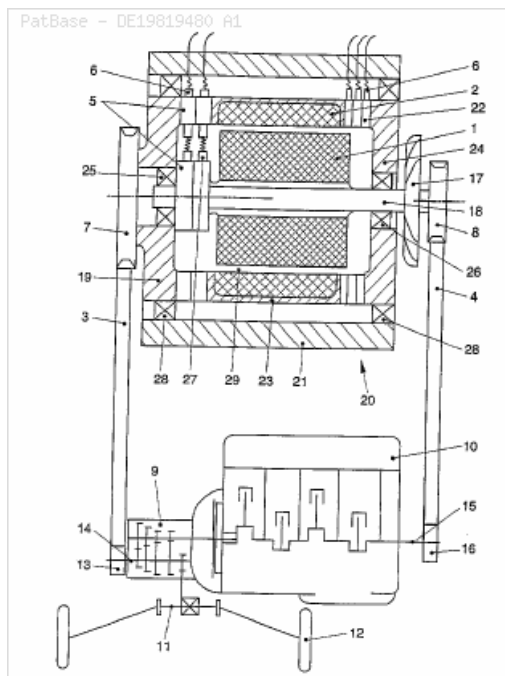
Abstract: A generator (20,30) for generating electrical energy, especially for extracting brake energy in vehicles, comprises two magnetic field-producing coils (1-32) lying opposite one another, separated by an airgap (29,45) to each of which is assigned one voltage tapping-off device (5-42). They can be moved by force independently of one another. A first coil is force-coupled to the vehicle's engine 910) and the second coil to the gearbox 99) of the vehicle's drive. The coils are each moved via pulley belt drives (4-13). A magnet (33) is located in the airgap. The coils are designed as rotationally movable annular coils. The magnet is designed as an annular arrangement with integrated permanent magnets or solenoids.

Classifications:

International (IPC 8-9): B60L7/00 B60L7/10 B60T1/00 B60T1/10 H02K16/00 H02K19/00 H02K21/00 H02K7/00

International (IPC 1-7): B60L7/18 B60T1/10 H02K21/00

CPC: B60L7/10 B60T1/10 H02K16/005 H02K7/006 Y02T10/64



Family:

Publication number	Publication date	Application number	Application date
DE19819480 A1	19991104	DE19981019480	19980430
DE19819480 B4	20100923	DE19981019480	19980430

Priority:

DE19981019480 19980430

Probable Assignee: VOLKSWAGEN GROUP

Assignee(s): (std): VOLKSWAGEN AG ; VOLKSWAGEN GROUP ; VOLKSWAGENWERK AG

Inventor(s): (std): CAPPELMANN BERND ; FAEHLAND JOERG ; LUDANEK HARALD

58) Family number: 21394667 (DE1638335 A1)

© PatBase

Title: ELECTRIC SMALL SYNCHRONOUS MOTOR (Machine translation)

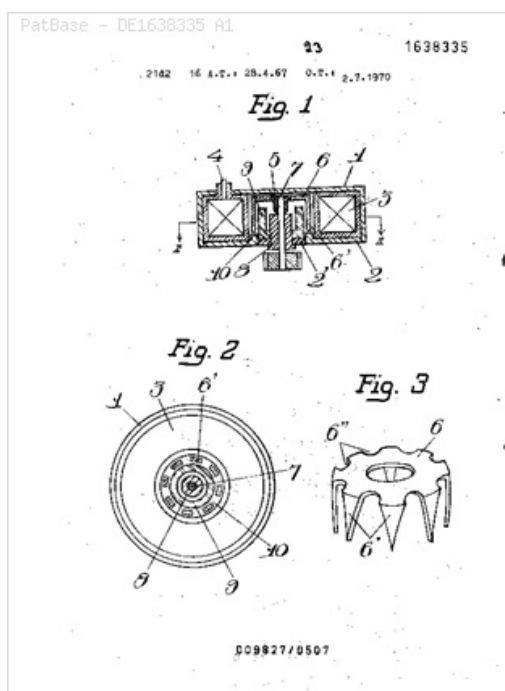
Abstract: Source: DE1638335 A1 **Machine translation:** (Claim 1) Patent in the area: (American version) 1 T #
 Elektrischer small synchronous motors characterized by the below mentioned features: a housing (1), one of. Go:-inse-Etrat
 camp (8, 111), with one in the (7) a innerheL.

Classifications:

International (IPC 8-9): H02K19/02 H02K19/06 H02K21/00
 H02K21/38

International (IPC 1-7): H02K21/40

CPC: H02K19/06 H02K21/44



Family:

Publication number	Publication date	Application number	Application date
DE1638335 A1	19700702	DE1967K062169	19670428

DE1638335 B2	19770901	DE1967K062169	19670428
FR1521808 A	19680419	FR19670105006	19670503

Priority:

DE1967K062169 19670428 FR19670105006 19670503

Probable Assignee: TOKAI RIKI CO LTD

Assignee(s): (std): TOKAI RIKI CO LTD

Assignee(s): K K TOKAI RIKI DENKI SEISAKUSHO ; KABUSHIKI KAISHA TOKAI RIKI DENKI SEISAKUSHO ; TOKAI RIKI DENKI SEISAKUSHO KK

Inventor(s): (std): INARIBA TOKUZO

59) Family number: 12991663 (EP1037365 A1)

© PatBase

Title: MOTOR GENERATOR DEVELOPING HIGH TORQUE

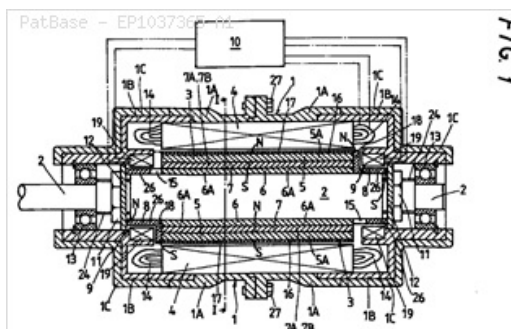
Abstract: A motor generator is disclosed, in which a rotor (3) has a rotor shaft (2) having mounted thereon with a permanent-magnet member (5), a magnetic permeable member (6) and a magnetic path core (7), electromagnets (9) being arranged on lengthwise opposing ends of the permeable member (6), each to each end, and switching means (35) are provided to turn on an electric current applied to the electromagnets (9), which are thus energized to develop magnetic flux identical or opposite in direction to the magnetic flux produced by the permanent-magnet member (5), depending on the direction of the electric current. The permeable member (6) is made of platy laminations of amorphous alloys, the platy laminations being arranged substantially normal to the permanent-magnet member (5) to thereby establish paths for magnetic flux, through which the magnetic flux is permitted to pass from the axial direction to the radial direction of the rotor (3).

Classifications:

International (IPC 8-9): B60K6/00 B60K6/04 B60K6/20 B60K6/26 B60K6/40 B60K6/405 B60K8/00 B60W10/08 B60W20/00 H02K1/00 H02K1/02 H02K1/22 H02K1/27 H02K21/04 H02K21/14

International (IPC 1-7): B60K6/00 B60K8/00 H02K1/02 H02K1/22 H02K1/27 H02K21/04 H02K21/14

CPC: B60K6/26 B60K6/405 B60W10/08 H02K1/274 H02K1/278 H02K21/046



Family:

Publication number	Publication date	Application number	Application date
EP1037365 A1	20000920	EP20000301652	20000301
JP2000261996 A2	20000922	JP19990066168	19990312
JP2000261992 A2	20000922	JP19990066190	19990312

Priority:

JP19990066168 19990312 JP19990066190 19990312

Probable Assignee: ISUZU CERAMICS RES INST

Assignee(s): (std): ISUZU CERAMICS RES INST

Assignee(s): ISUZU CERAMICS RES INST CO LTD ; ISUZU CERAMICS RESEARCH INST CO LTD ; ISUZU CERAMICS RESEARCH INSTITUTE CO ; ISUZU CERAMICS RESEARCH INSTITUTE CO LTD

Inventor(s): (std): KAWAMURA HIDEO

Designated states: DE FR GB

60) Family number: 10693348 (US4980595 A)

© PatBase

Title: Multiple magnetic paths machine

Abstract: Separate multiple flux paths for an electrical generator or motor are provided in a single rotor machine by axially mounting a plurality of pole structures on the rotor shaft. Each pole structure includes a pair of interleaved claw-type pole pieces forming each separate path, with an excitation source sandwiched between the pole pieces. The excitation source in at least one of the pole structures comprises a non-magnetic sleeve mounted on a shaft of the rotor between the pole pieces and an annular permanent magnet mounted on the sleeve. The excitation source in at least one other of the pole structures comprises a permeable core mounted on the rotor shaft between the pole pieces and a conductive coil encircling the core.

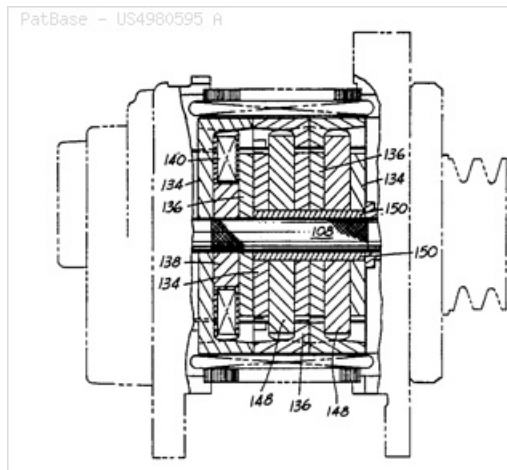
Classifications:

International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K16/02 H02K19/16 H02K19/22 H02K19/26 H02K21/04 H02K21/14

International (IPC 1-7): H02K1/22 H02K19/22 H02K21/14

CPC: H02K1/24 H02K1/243 H02K1/2713 H02K16/02 H02K19/22 H02K19/26 H02K21/044 H02K21/14

US: 310/114 310/156.64 310/156.69 310/181 310/208 310/263 310/268

**Family:**

Publication number	Publication date	Application number	Application date
DE69215350 D1	19970102	DE19926015350T	19920219
DE69215350 T2	19970619	DE19926015350T	19920219
EP0556425 A1	19930825	EP19920102743	19920219
EP0556425 B1	19961120	EP19920102743	19920219
US4980595 A	19901225	US19890346336	19890427
US5130595 A	19920714	US19900630632	19901220

Priority:

US19870123758 19871123 US19890346336 19890427 US19900630632 19901220
 EP19920102743 19920219

Probable Assignee: CHRYSLER CORP

Assignee(s): (std): CHRYSLER CORP

Assignee(s): CHRYSLER A CORP OF DELAWARE CORP ; CHRYSLER CORP HIGHLAND PARK MICH US

Inventor(s): (std): ARORA RAM S ; ARORA RAM SARAN

Inventor(s): ARORA RAM SARAN FARMINGTON MICHIGAN 48024 US

Designated states: CH DE FR GB LI

61) Family number: 28182136 (US2002047418 AA)

© PatBase

Title: COMPACT AND RELIABLE STRUCTURE OF MULTI-ROTOR SYNCHRONOUS MACHINE

Abstract: A compact and reliable structure of a multi-rotor synchronous machine which may be employed as a generator/motor for automotive vehicles is provided. The machine includes an outer rotor having permanent magnets, an inner rotor having permanent magnets disposed to be rotatable relative to the outer rotor, a stator core having armature coils interlinking with field magnetic fluxes produced by the outer and inner rotors, and a rotor-to-rotor relative rotation controlling mechanism. A relative angle between the outer and inner rotors is controlled within a given angular range by controlling the phase and quantity of current flowing through the armature coils to rotate the inner rotor relative to the outer rotor through the rotor-to-rotor relative rotation controlling mechanism, thereby changing the magnetic fluxes interlinking with the armature coils as needed.

Classifications:

International (IPC 8-9): B60L11/14 B60L50/16 F02N11/04 F16F15/30 H02K16/02 H02K21/00 H02K21/12 H02K21/16 H02K21/22 H02K7/06 H02K7/075 H02K7/12 H02K7/18

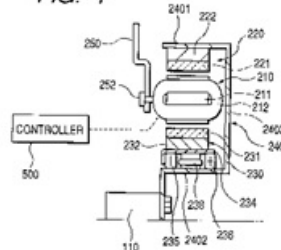
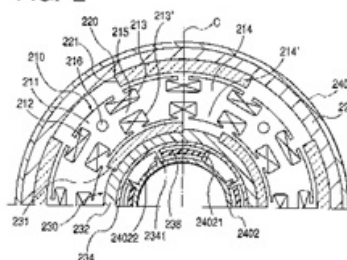
International (IPC 1-7): B60L11/14 F16F15/30 H02K1/22 H02K16/00 H02K16/02 H02K21/00 H02K7/075 H02K7/14 H02K7/18

CPC: F02N11/04 F02N2300/104 H02K11/048 H02K16/02 H02K21/029 H02K21/12 H02K7/18 Y02T10/64 H02K21/16 H02K21/225

US: 310/114 310/114P 310/266 310/266P 310/51 310/51S 310/68.00B 310/68B

PatBase - US2002047418 AA

Patent Application Publication Apr. 25, 2002 Sheet 1 of 24 US 2002/0047418 A1

FIG. 1**FIG. 2**

Family:

Publication number	Publication date	Application number	Application date
EP1191673 A2	20020327	EP20010122022	20010913
EP1191673 A3	20020821	EP20010122022	20010913
JP2002136045 A2	20020510	JP20000326673	20001026
JP4337018 B2	20090930	JP20000326673	20001026
JP2002165426 A2	20020607	JP20010188641	20010621
JP4269544 B2	20090527	JP20010188641	20010621
US2002047418 AA	20020425	US20010950823	20010913
US2004232800 AA	20041125	US20040849427	20040520
US6998757 BB	20060214	US20040849427	20040520

Priority:

JP20000280608 20000914 JP20000326673 20001026 JP20010188641 20010621
US20010950823 20010913 US20040849427 20040520

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP

Assignee(s): IMANI YUICHI ; SEGUCHI MASAHIRO ; YONEDA SHIGENORI

Inventor(s): (std): IMANI YUICHI ; SEGUCHI MASAHIRO ; YONEDA SHIGENORI

Inventor(s): MASAHIRO SEGUCHI ; SHIGENORI YONEDA ; YUICHI IMANI

Agent(s): POSZ LAW GROUP PLC

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

62) Family number: 10986402 (US5578885 A)

© PatBase

Title: Rotor assembly for hybrid alternator

Abstract: An alternator has a rotor with a plurality of permanent magnets disposed between opposing claw pole members and a field coil. The plurality of permanent magnets are secured to at least one ring-shaped carrier which surrounds the field coil and locates the magnets into appropriate positions between the fingers of the claw pole members.

Classifications:

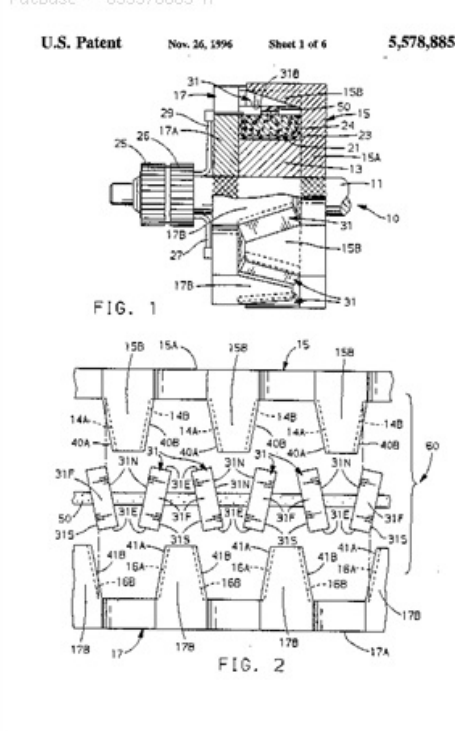
International (IPC 8-9): H02K1/22 H02K1/24 H02K1/27 H02K19/16 H02K19/22 H02K21/00 H02K21/04

International (IPC 1-7): H02K1/22 H02K1/27 H02K19/22 H02K21/04

CPC: H02K1/243 H02K21/044 H02K2201/06

US: 310/181 310/263

PatBase - US5578885 A

**Family:**

Publication number	Publication date	Application number	Application date
EP0718959 A2	19960626	EP19950203087	19951113
EP0718959 A3	19980304	EP19950203087	19951113
JP8223882 A2	19960830	JP19950331339	19951220
US5578885 A	19961126	US19940361419	19941222

Priority:

US19940361419 19941222

Probable Assignee: REMY TECHNOLOGIES LLC

Assignee(s): (std): GEN MOTORS CORP

Assignee(s): BANK OF AMERICA NA ADMINISTRATIVE AGENT AS ; DELPHI TECHNOLOGIES INC ; DEUTSCHE BANK NATIONAL TRUST COMPANY COLLATERAL AGENT AS ; DEUTSCHE BANK NATIONAL TRUST COMPANY COLLATERAL AGENT AS ; DEUTSCHE BANK NATIONAL TRUST COMPANY COLLATERAL AGENT AS ; GENERAL MOTORS CORP ; REMY INC F K A DELCO REMY AMERICA INC ; REMY INT INC F K A DELCO REMY INT INC ; REMY POWER PRODUCTS LLC ; REMY TECHNOLOGIES LLC ; WELLS FARGO CAPITAL FINANCE LLC AGENT AS

Inventor(s): (std): ALFORD STEPHEN A ; ALFORD STEPHEN ALAN ; GIRUBAATO EDOWAADO SHIYAaku ; RAUSCH RICHARD A ; RAUSCH RICHARD ALLEN ; RICHIAADO AREN RAUSHIYU ; SHIRK GILBERT E ; SHIRK GILBERT EDWARD ; SUTEIBUN ARAN ARUFUODOO

Designated states: DE FR GB IT

63) Family number: 48323984 (US2011031839 AA)

© PatBase

Title: SYSTEM AND METHOD FOR ENERGY GENERATION

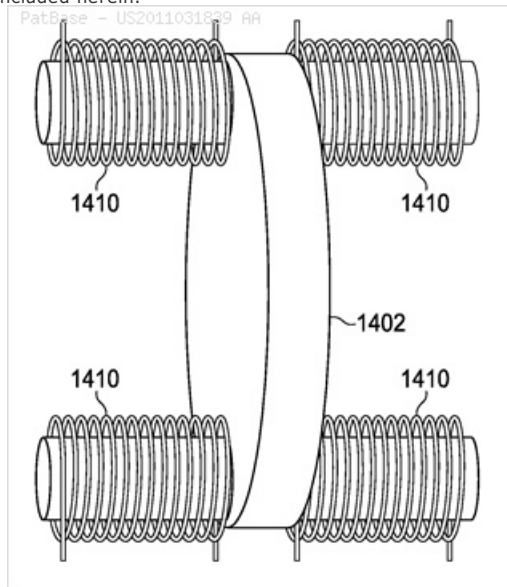
Abstract: A magnetic system and related method for generating energy is described. Multiple embodiments are described having different shapes, alternative designs to receive different driving forces, varied magnetic structures, and so forth. In an example implementation, a magnetic structure may include on a single side multiple magnetic sources having different magnetic polarities. Other description herein may be directed to magnetizer printing, adaptable/adjustable correlated magnet devices, entertainment devices having correlated magnet technology, and so forth. Furthermore, description of additional magnet-related technology and example implementations thereof is included herein.

Classifications:

International (IPC 8-9): H01F13/00 H01F41/00 H01F7/02 H02K21/00 H02K21/24

CPC: G01D18/00 G06K19/06187 G06K2019/06281 H01F13/003 H01F7/02 H01F7/0242 H01F7/0273 H01F7/0284 H02K15/03 H02K21/24 H02K49/10 Y10T29/4902

US: 29/602.1 29/602.100S 310/152 310/152P 310/156.32 310/156.35 310/268 335/284 335/296 335/306



Family:

Publication number	Publication date	Application number	Application date
US2011031839 AA	20110210	US20100895589	20100930
US8760250 BB	20140624	US20100895589	20100930

Priority:

US20090476952	20090602	US20090277214P	20090922	US20090277900P	20090930
US20090278767P	20091009	US20090279094P	20091016	US20090281160P	20091113
US20090283780P	20091209	US20090284385P	20091217	US20100342988P	20100422
US20100885450	20100918	US20100895589	20100930		

Probable Assignee: CEDAR RIDGE RESEARCH LLC

Assignee(s): (std): CEDAR RIDGE RESEARCH LLC ; CORRELATED MAGNETICS RESEARCH LLC ; FULLERTON LARRY W ; RICHARDS JAMES L ; ROBERTS MARK D

Assignee(s): CORRELATED MAGNETICS RESEARCH LLC

Inventor(s): (std): FULLERTON LARRY W ; RICHARDS JAMES L ; ROBERTS MARK D

Agent(s): KAITH W; LAW OFFICE OF WILLIAM J TUCKER; WILLIAM J

64) Family number: 28328214 (US6404097 BA)

© PatBase

Title: ROTARY ELECTRICAL MACHINES

Abstract: A rotary electrical machine comprising a stator (10) and at least one rotor (12) having a plurality of permanent magnets (14). The rotor consists of a rotor disc, at the outer edge of which the permanent magnets are mounted. The rotor disc (12) is provided with airgap varying means (19) which are angled towards the stator (10) and mounted on the rotor hub (24) for rotation therewith. When the rotor is stationary, the airgap (30) between the magnets (14) and the stator (10) is at a minimum. In operation, as the speed of rotation of the rotor (12) increases, a centrifugal force is generated which acts to bend the airgap varying means (19) and, therefore, the rotor disc (12) back, away from the stator (10), thereby drawing the magnets (14) away from the stator and increasing the size of the airgap (30). The increase in size of the airgap results in a corresponding decrease in flux and therefore a decrease in the maximum output voltage for that rotor speed. In this way, the output voltage of the machine is kept substantially constant. A stationary iron ring (32) may be provided on the stator (10) to assist in drawing away flux as the size of the airgap is increased.

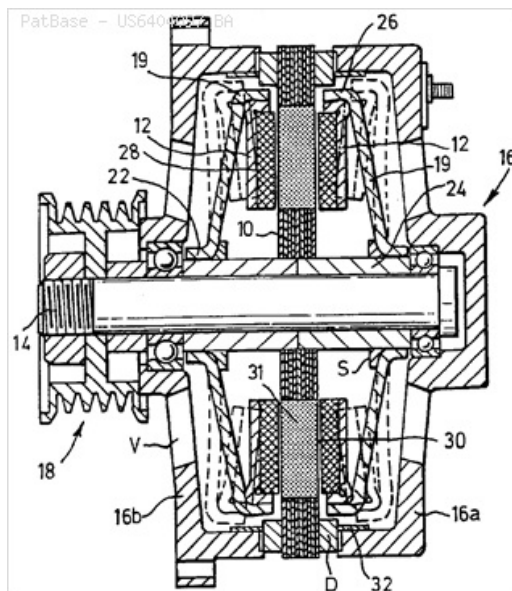
Classifications:

International (IPC 8-9): H02K1/27 H02K21/00 H02K21/24 H02K3/26

International (IPC 1-7): H02K1/14 H02K1/22 H02K21/24 H02K3/26 H02K3/28 H02P9/40

CPC: H02K1/2793 H02K21/026 H02K21/24 H02K3/26

US: 310/156.62 310/156.82 310/191 310/268 310/268P 310/80



Family:

Publication number	Publication date	Application number	Application date
AU199936192 A1	19991116	AU19990036192	19990423
CA2330113 AA	20001023	CA19992330113	19990423
EP1086523 A2	20010328	EP19990918160	19990423
GB9808721 A0	19980624	GB19980008721	19980423
GB2338117 A1	19991208	GB19980026365	19981201
GB2338117 B2	20020619	GB19980026365	19981201
GB9826365 A0	19990127	GB19980026365	19981201
US6404097 BA	20020611	US20010673857	20010201
US2002145360 AA	20021010	US20020161893	20020604
WO9956380 A2	19991104	WO1999GB01254	19990423
WO9956380 A3	20000113	WO1999GB01254	19990423

Priority:

GB19980008721 19980423 GB19980026365 19981201 WO1999GB01254 19990423
US20010673857 20010201 US20020161893 20020604

Probable Assignee: TURBO GENSET CO LTD

Assignee(s): (std): PULLEN KEITH ; THE TURBO GENSET COMPANY LIMITED ; TURBO GENSET CO LIMIT ; TURBO GENSET CO LTD ; TURBO GENSET CO T LTD ; TURBO GENSET COMPANY LTD ; TURBO GENSET COMPANY LTD THE ; TURBO GENSET COMPANY THE LIMIT ; TURBO GENSET COMPANY THE LTD

Assignee(s): PULLEN KEITH ROBERT ; THE TURBO GENSET COMPANY LTD ; TURBO GENSET COMPANY THE LIMITED

Inventor(s): (std): PULLEN KEITH ; PULLEN KEITH ROBERT

Inventor(s): KEITH PULLEN ; KEITH ROBERT PULLEN

Agent(s): FASKEN MARTINEAU DUMOULIN LLP ; KAPLAN AND GILMAN LLP

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC 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 ZA ZW

65) Family number: 30419485 (US6362550 BA)

© PatBase

Title: ELECTRIC MACHINE, ESPECIALLY A THREE-PHASE GENERATOR, WITH AN EXCITER

Abstract: The electric machine, particularly a three-phase generator, has an exciter machine (26) in the form of a claw pole machine which supplies the exciter current necessary for the generator. The exciter machine is located to the side of the generator and has substantially smaller dimensions than the latter. At claws (28, 29) of the stator (25) which face the armature (32) of the exciter machine, permanent magnets (39) are located in the leakage flux area between the claws. Unwanted leakage fields are contained in this way.

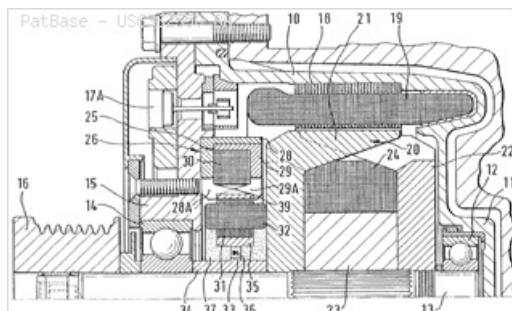
Classifications:

International (ipc 8-9): H02K11/04 H02K11/042 H02K19/16 H02K19/22 H02K19/36 H02K19/38 H02K21/00 H02K21/04 H02K21/14

International (ipc 1-7): H02K1/104 H02K1/938 H02K11/04 H02K19/22 H02K19/36 H02K19/38 H02K21/14

CPC: H02K11/042 H02K19/38 H02K21/044

US: 310/112 310/113 310/156.66 310/68D



Family:

Publication number	Publication date	Application number	Application date
BRPI9906867 A	20001017	BR1999PI06867	19991005

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

JP19930306782 19931207 JP19930312161 19931213 US19940351027 19941207
JP19950139519 19950606 US19960658532 19960605

Probable Assignee: NIPPONDENSO CO LTD

Assignee(s): (std): DENSO CORP ; ENSO CORP ; HIPONDENSO K K ; NIPPON DENSO CO

Assignee(s): DENSO CORP KARIYA ; DENSO CORP KARIYA AICHI JP ; NIPPONDENSO CO LTD

Inventor(s): (std): ATSUSHIJI UMETA ; IWATASHIN KAY ; KUSASE ARATA ; KUSASE SHIN ; SATO HIROHIDE ; SHIN TANIGUCHI ; TANIGUCHI MAKOTO ; TOKURA NORIHITO ; UMEDA ATSUSHI

Inventor(s): ATSUSHI UMEDA ; KAY IWATASHIN ; KUSASE SHIN KARIYA CITY AICHI PREF ; MAKOTO TANIGUCHI ; SATO HIROHIDE TOYOKAWA CITY AICHI PREF ; SHIN KUSASE ; TANIGUCHI MAKOTO KARIYA CITY AICHI PREF ; TANIGUCHI SHIN ; TOKURA NORIHITO OKAZAKI CITY AICHI PREF ; UMEDA ATSUSHI ANJO CITY AICHI PREF ; UMEDA ATSUSHI KARIYA CITY AICHI PREF ; UMETA ATSUSHIJI

Designated states: DE FR GB IT

67) Family number: 44962941 (US2010109466 AA)

© PatBase

Title: ROTOR FOR ELECTRIC ROTARY MACHINE

Abstract: A rotor for an electric rotary machine and a method of manufacturing the same are disclosed wherein none of permanent magnets is fixed to a magnetic supporting segment of a magnet support ring in advance and each permanent magnet is assembled separately of the magnet support ring. Prior to the assembling of the permanent magnets, the magnet support ring is preliminarily located on claw-shaped magnetic poles at inner peripheral sides thereof under a state combined with a pair of field iron cores, after which the permanent magnets are inserted to magnet insertion spaces in longitudinal directions. The rotor includes positioning and restricting means for precluding the occurrence of positional displacement of each permanent magnet with respect to each magnet supporting segment of the magnet support ring.

Classifications:

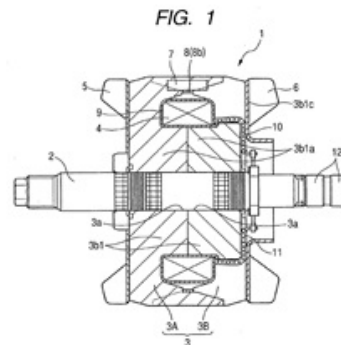
International (IPC 8-9): H02K1/22 H02K1/27 H02K1/28 H02K15/02 H02K15/03 H02K19/16 H02K19/24 H02K21/00 H02K21/04 H02K21/12

CPC: H02K15/022 H02K21/044 Y10T29/49012

US: 29/598 29/598S 310/156.12 310/156.120P 310/156.31 310/156.72 310/156.77 310/263 310/263S

PatBase - US2010109466 AA

Patent Application Publication May 6, 2010 Sheet 1 of 23 US 2010/0109466 A1



Family:

Publication number	Publication date	Application number	Application date
EP2182613 A2	20100505	EP20090012996	20091014
EP2182613 A3	20130731	EP20090012996	20091014
EP2182613 B1	20180228	EP20090012996	20091014
JP2010110169 A2	20100513	JP20080281672	20081031
JP4743257 B2	20110810	JP20080281672	20081031
JP2010136549 A2	20100617	JP20080310782	20081205
JP4697292 B2	20110608	JP20080310782	20081205
US2010109466 AA	20100506	US20090588757	20091027
US8283833 BB	20121009	US20090588757	20091027

Priority:

JP20080281672 20081031 JP20080310782 20081205

Probable Assignee: DENSO CORP

Assignee(s): (std): DENSO CORP ; HAYASHI YOSHINORI ; KONDO KOJI

Inventor(s): (std): HAYASHI YOSHINORI ; KONDO KOJI

Agent(s): KUHNEN AND WACKER; OLIFF AND BERRIDGE PLC

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 MK MT NL NO PL PT RO RS SE SI SK SM TR

68) Family number: 28514659 (US2002093262 AA)

© PatBase

Title: BRUSHLESS PERMANENT MAGNET MOTOR WITH VARIABLE AXIAL ROTOR/STATOR ALIGNMENT TO INCREASE SPEED CAPABILITY

Abstract: A brushless permanent magnet electric motor with a fixed radial air gap is operated to a much higher speed than

normal maximum speed by the reduction in effective magnet pole strength. Increasing the amount of axial misalignment of the permanent magnet rotor and stator proportionally increases the speed and reduces the torque. The permanent magnet rotor is offset axially to provide axial misalignment between the rotor magnet poles and the stator, reducing the effective magnet pole strength or flux to the stator. An integral constant velocity linear bearing is used to couple the movable rotor and the fixed position motor shaft. A thrust bearing is actuated to offset the magnetic rotor against the attractive magnetic forces toward the stator. The use of a constant velocity linear bearing allows the motor shaft, radial support bearings, position encoder, cooling fan, and output coupling to remain in a constant position while rotor position is offset.

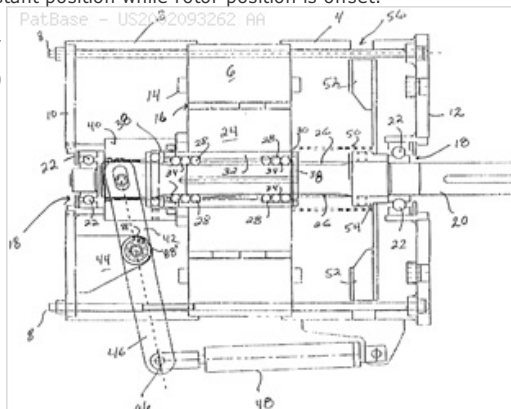
Classifications:

International (IPC 8-9): F16C29/06 H02K1/27 H02K21/00 H02K21/14 H02K7/10 H02K7/12

International (IPC 1-7): F16C29/06 H02K1/122 H02K1/27 H02K1/600 H02K1/601 H02K16/00 H02K16/01 H02K21/14 H02K5/16 H02K7/12

CPC: H02K21/024 H02K7/12

US: 310/114 310/190 310/191 310/209 310/266 310/9 310/90



Family:

Publication number	Publication date	Application number	Application date
AT432552 E	20090615	AT20030713939T	20030307
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CN1639947 A	20050713	CN20038005520	20030307
DE60327743 D1	20090709	DE20036027743T	20030307
EP1483821 A1	20041208	EP20030713939	20030307
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IN02588DN2004 A	20070810	IN2004DN02588	20040903
IN233566 B	20090327	IN2004DN02588	20040903
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JP4361805 B2	20091111	JP20030575495T	20030307
US6555941 BA	20030429	US20020094216	20020308
US2002093262 AA	20020718	US20020094234	20020308
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WO03077403 A1	20030918	WO2003US06897	20030307

Priority:

US20020094216 20020308 US20020094234 20020308 WO2003US06897 20030307

Probable Assignee: DURA TRAC MOTORS INC

Assignee(s): (std): DURA TRAC MOTORS INC ; MEDLIN JERRY W ; ZEPP LAWRENCE P

Assignee(s): VTM TECHNOLOGIES LLC

Inventor(s): (std): MEDLIN JERRY W ; ZEPP LAWRENCE P

Inventor(s): JERRY W MEDLIN ; LAWRENCE P ZEPP

Agent(s): BAKER AND DANIELS; BUTZEL LONG; HOFER DOROTHEA ET AL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE 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 NE NI NL NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

69) Family number: 8700574 (US5614777 A)

© PatBase

Title: FLYWHEEL BASED ENERGY STORAGE SYSTEM

Abstract: A compact energy storage system includes a high speed rotating flywheel and an integral motor/generator unit. The rotating components are contained within a vacuum enclosure to minimize windage losses. The flywheel rotor has a unique axial profile to both maximize the energy density of the flywheel and to maximize the volumetric efficiency of the entire system. The rotor is configured with hollowed-out regions at each axial end to accommodate magnetic bearing assemblies. The integral motor/generator is disposed on a tail shaft of the flywheel rotor, outboard of the magnetic bearing assembly. The motor/generator stator is mounted on a translation carriage for axial movement. During normal operation, the stator is in operative alignment with a rotor on the flywheel shaft. However, when neither motor nor generator operation is required, the stator is extended to an axial position where it is effectively decoupled from the rotor. A magnetic shield surrounding the rotor confines the lines of magnetic flux to minimize eddy currents, and thereby minimize parasitic energy losses that would otherwise slow the flywheel during idle periods.

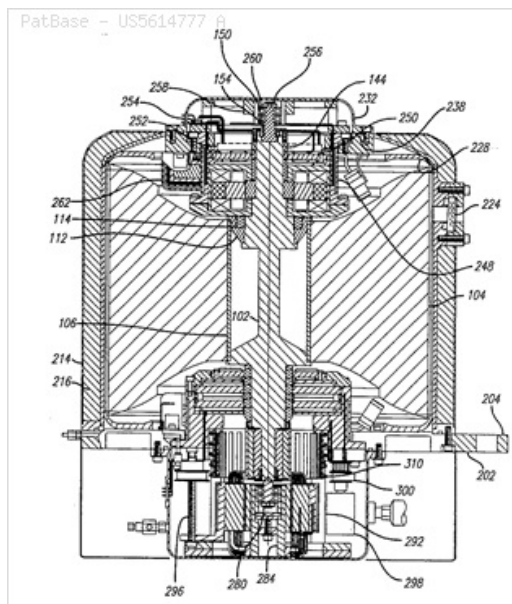
Classifications:

International (IPC 8-9): B60L11/00 B60L11/16 B60L50/30 F16F15/30 H02K11/00 H02K21/00 H02K7/00 H02K7/02 H02K7/09

International (IPC 1-7): H02K1/12 H02K7/02

CPC: B60L2200/26 B60L50/30 B60L50/51 F16F15/30 H02K11/00 H02K21/024 H02K7/025 H02K7/09 Y02E60/16 Y02T10/64 Y02T10/70 Y10T74/2117

US: 310/191 310/254 310/74 74/572.1



Family:

Publication number	Publication date	Application number	Application date
AU199651686 A1	19960827	AU19960051686	19960129
US5614777 A	19970325	US19950384573	19950206
WO9624981 A1	19960815	WO1996US01328	19960129

Priority:

US19950384573 19950206 WO1996US01328 19960129

Probable Assignee: US FLYWHEEL SYSTEMS

Assignee(s): (std) U S FLYWHEEL SYSTEMS

Inventor(s): (std) BITTERLY JACK G ; BITTERLY STEVEN E ; HENNING HARVEY ; HOAR ROY

Inventor(s): JACK G BITTERLY ; STEVEN E BITTERLY

Designated states: AL AM AT AU AZ BB BE BF BG BJ BR BY CA CF CG CH CI CN CZ DE DK EE ES FI FR GB GE GR HU IE IS IT JP KE KG KP KR KZ LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SZ TJ TM TR TT UA UG UZ VN

70) Family number: 47900168 (US2010320861 AA)

© PatBase

Title: DYNAMOELECTRIC MACHINE

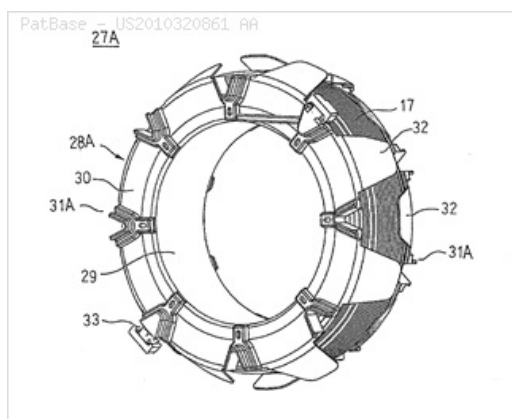
Abstract: An interfitting groove is disposed in a bottom portion of a trough portion so as to have a groove direction that is axial and so as to extend axially outward from axially inside, and a rotation arresting portion housing recess portion is recessed into an axially inner opening edge portion of the interfitting groove on a first yoke portion. A magnet holding seat that holds a permanent magnet is disposed in the trough portion by an interfitting portion being fitted into the interfitting groove such that radial movement is restricted. A rotation arresting portion that is disposed so as to project axially outward from a flange portion of the bobbin is housed inside a space that is constituted by the rotation arresting portion housing recess portion and an external shape reduced portion that extends axially inward from the interfitting groove such that rotation of the bobbin around the shaft is restricted.

Classifications:

International (IPC 8-9): H02K1/00 H02K1/22 H02K1/24 H02K1/27 H02K1/28 H02K19/16 H02K19/22 H02K19/26 H02K21/00 H02K3/00 H02K3/46

CPC: H02K21/044

US: 310/156.66 310/156.69 310/156.71 310/156.73 310/194 310/194P 310/257 310/263 310/263S



Family:

Publication number	Publication date	Application number	Application date
DE102010004300 A1	20110303	DE201010004300	20100111
DE102010004300 B4	20180315	DE201010004300	20100111
JP2011010385 A2	20110113	JP20090148815	20090623
JP4837074 B2	20111214	JP20090148815	20090623
US2010320861 AA	20101223	US20090627704	20091130
US8179015 BB	20120515	US20090627704	20091130

Priority:

Probable Assignee: MITSUBISHI ELECTRIC CORP**Assignee(s):** (std): MITSUBISHI ELECTRIC CORP ; NISHIKAWA KEN ; TANAKA KAZUNORI**Assignee(s):** MITSUBISHI DENKI KABUSHIKI KAISHA ; MITSUBISHI DENKI KK**Inventor(s):** (std): NISHIKAWA KEN ; NISHIKAWA TAKESHI ; TANAKA KAZUNORI**Agent(s):** SUGHRUE MION PLLC**71) Family number: 42277459** (US2009026864 AA)

© PatBase

Title: FIELD CONTROLLABLE ROTATING ELECTRIC MACHINE SYSTEM WITH FLUX SHUNT CONTROL

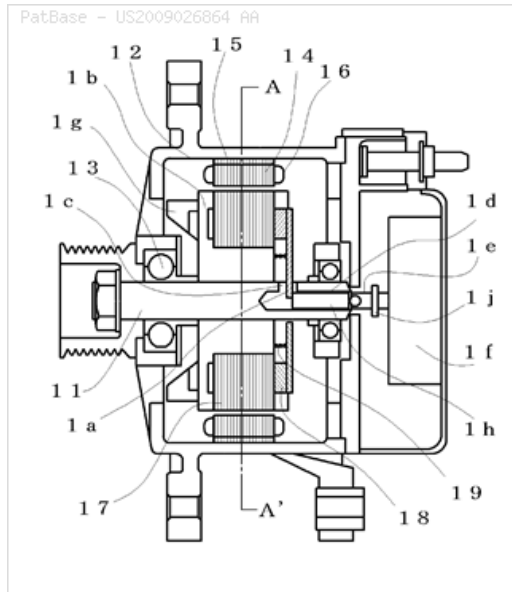
Abstract: In a magnet-exciting rotating electric machine, a magnetic field pole part opposing an armature is composed to be divided into a surface magnetic pole part and a magnetic excitation part so as to be capable of being relatively displaced. The magnetic excitation part supplies a magnetic flux to a magnetic salient pole. The magnetic flux from the field magnet is divided into a main magnetic flux pathway that circulates through the armature side and a bypass magnetic flux pathway that does not pass through the armature, and thereby, the magnetic flux of the main magnetic flux pathway is changed. The magnetic resistances of the main magnetic flux pathway and the bypass magnetic flux pathway are composed so that total magnetic flux amount from the field magnet is maintained constant, and then a magnetic force preventing the relative displacement is maintained small.

Classifications:

International (IPC 8-9): H01F13/00 H02K1/22 H02K1/24 H02K1/27 H02K1/28 H02K16/00 H02K16/02 H02K21/00 H02K21/02 H02K21/12 H02K21/14 H02K21/16 H02K21/22 H02K21/24 H02K21/28 H02K3/18 H02K7/10 H02K7/12 H02P9/00 H02P9/14

CPC: H02K21/028 Y02T10/641 H02K21/029 H02K1/274 H02K21/14 H02K21/24 H02K7/125 H02K11/048

US: 310/114 310/154.28 310/156.07 310/156.070S 310/156.48 310/156.55 310/181 310/190 310/191 318/538 318/538P 322/28 322/29 322/51 335/284 310/154.280P 335/284S

**Family:**

Publication number	Publication date	Application number	Application date
■ CN101874338 A	20101027	CN200880100646	20080526
■ CN101874338 B	20121031	CN200880100646	20080526
■ CN101772880 A	20100707	CN200880102096	20080522
■ CN101772880 B	20120704	CN200880102096	20080522
■ EP2187508 A1	20100519	EP20080753086	20080522
■ EP2187508 A4	20130313	EP20080753086	20080522
■ EP2200161 A1	20100623	EP20080764682	20080526
■ EP2200161 A4	20130313	EP20080764682	20080526
■ JP2009050068 A2	20090305	JP20070212674	20070817
■ JP4150765 B1	20080917	JP20070212674	20070817
■ JP2009050069 A2	20090305	JP20070212690	20070817
■ JP4150779 B1	20080917	JP20070212690	20070817
■ JP2009268298 A2	20091112	JP20080116918	20080428
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■ JP2009273288 A2	20091119	JP20080122990	20080509
■ JP2009261206 A2	20091105	JP20080144181	20080602
■ JP4243651 B1	20090325	JP20080144181	20080602
■ JP2009261207 A2	20091105	JP20080144207	20080602
■ JP4238298 B1	20090318	JP20080144207	20080602
■ JP2009261216 A2	20091105	JP20080264929	20081014
■ KR101091444 B1	20111207	KR20107001742	20100126
■ KR20100029250 A	20100316	KR20107001742	20080526
■ KR101118337 B1	20120312	KR20107003310	20080522
■ KR20100041836 A	20100422	KR20107003310	20080522
■ US2009045691 AA	20090219	US20080024911	20080201
■ US2009026864 AA	20090129	US20080031512	20080214
■ US7567006 BB	20090728	US20080031512	20080214
■ US2009045765 AA	20090219	US20080136975	20080611
■ US7999432 BB	20110816	US20080136975	20080611
■ WO09025110 A1	20090226	WO2008JP59455	20080522
■ WO09013934 A1	20090129	WO2008JP59649	20080526

Priority:

JP20070194043 20070726

JP20070212674 20070817

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JP20070279975 20071029

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JP20070313140 20071204

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JP20080074809	20080324	JP20080074842	20080324	JP20080074863	20080324
JP20080116918	20080428	JP20080116940	20080428	JP20080122990	20080509
WO2008JP59455	20080522	WO2008JP59649	20080526	JP20080144181	20080602
JP20080144207	20080602	US20080136975	20080611	JP20080264929	20081014

Probable Assignee: KURA LABORATORY CORP

Assignee(s): (std): KURA GIJTSU KENKYUSHO KK ; KURA LAB CORP ; T N G TECHNOLOGIES CO LTD

Assignee(s): KURA LABORATORY CORP ; KURA LABORATORY CORPORATION ; T N G TECHNOLOGIES CO

Inventor(s): (std): ICHIYAMA YOSHIKAZU ; YOSHIKAZU ICHIYAMA

Agent(s): DITTHAVONG MORI AND STEINER PC

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 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 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 PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN ZA ZM ZW

72) Family number: 29455412 (US5900686 A)

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Title: ELECTRIC MOTOR VEHICLE

Abstract: PCT No. PCT/JP93/00620 Sec. 371 Date Dec. 8, 1994 Sec. 102(e) Date Dec. 8, 1994 PCT Filed May 11, 1993 PCT Pub. No. WO93/23266 PCT Pub. Date Nov. 25, 1993 An electric motor vehicle includes a motor case having first and second hollow section, with the first hollow section having a smaller diameter than that of the second hollow section, forming a step between the first and second hollow sections; a stator provided in the second hollow section and having an end engaged with the step; a motor cover having a cylindrical projection in sliding relationship to the second hollow section and sufficiently long to press the stator against the step and provide a space between the motor case and the motor cover for a minimum thickness of the stator; and a filler made of a liquid packing provided in the space between the motor case and the motor cover for sealing the motor against winds and rains.

Classifications:

International (IPC 8-9): B60K1/00 B60K17/04 B60K7/00 B60L11/18 B60L15/20 B60L3/00 B62M23/02 B62M7/00 B62M7/12 H01F13/00 H01F41/02 H01F7/02 H02K1/18 H02K1/27 H02K11/00 H02K15/00 H02K15/04 H02K23/26 H02K29/00 H02K29/06 H02K29/08 H02K3/50 H02K5/00 H02K5/04 H02K5/10 H02K5/15 H02K5/22 H02K7/10

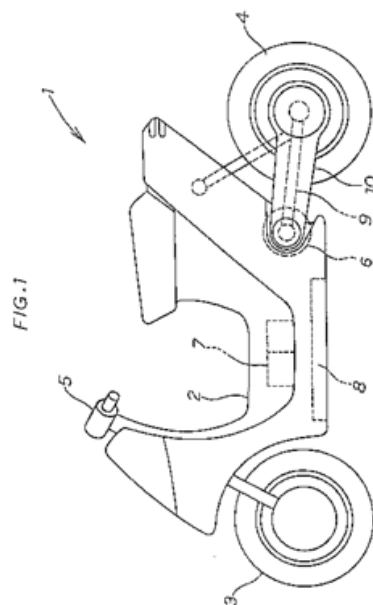
International (IPC 1-7): B60K7/00 B60L11/18 B60L15/00 B60L15/20 B60L15/30 B60L3/00 B62M7/00 B62M7/12 H01F13/00 H01F41/02 H01F7/02 H02H7/00 H02H7/16 H02K1/18 H02K1/27 H02K11/00 H02K15/00 H02K15/04 H02K21/00 H02K23/26 H02K29/00 H02K29/08 H02K3/50 H02K5/00 H02K5/04 H02K5/22 H02P1/00 H02P5/00

CPC: B60G2204/30 B60K1/00 B60K17/043 B60K2007/0046 B60K2007/0061 B60K7/0007 B60L2200/12 B60L2220/44 B60L2220/46 B60L2260/56 B60L3/00 B60L3/0023 B60L3/003 B60L3/0046 B60L3/06 B60L50/60 B60L58/10 B62K2202/00 B62K2204/00 B62M7/00 B62M7/12 H02K1/185 H02K1/276 H02K15/04 H02K2211/03 H02K29/08 H02K5/10 H02K5/15 H02K5/225 H02K7/10 Y02T10/64 Y02T10/70 Y02T10/72 Y02T10/7258 Y02T10/641 Y02T10/7005 Y02T10/705 B60L50/50

US: 180/65.8 310/68.00B 310/68B 310/71 318/139 318/430 363/55 388/827

PatBase - US5900686 A

U.S. Patent May 4, 1999 Sheet 1 of 9 5,900,686



Family:

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CN1109616 C	20030528	CN19991005214	19990415
CN1230495 A	19991006	CN19991005214	19990415
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EP0640507 A1	19950301	EP19930911994	19930511
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KR100334423 B1	20021011	KR19940704060	19930511
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KR19957001584 A	19950428	KR19940704060	19930511
KR957001584 A	19950428	KR19940704060	19941112
TW306449 Y	19970521	TW19930216840U	19930525
US5900686 A	19990504	US19940335707	19941208
US6037726 A	20000314	US19990244899	19990204
US6054818 A	20000425	US19990244900	19990204
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Priority:

JP19920119127	19920512	JP19920239695	19920908	JP19920239696	19920908
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JP20020130055	20020501				

Probable Assignee: SEIKO EPSON CORP

Assignee(s): (std): KOIKE YOSHIKAZU ; KOZAKI MINORU ; MIZUKOSHI ATSUSHI ; SASAKI NOBUKI ; SATO TAKEO ; SEIKO EPSON CORP ; SEIKO EPSON CORP ; TABATA KUNIO ; TAKAGI KUNIHICO ; TOKYO R AND D CO ; TOKYO R AND D CO LTD ; TOKYO R AND D KK ; YAMAKOSHI ISSEI

Assignee(s): D CO LTD ; SEIKO EPSON 4 1 NISHISHINJUKU 2 CHOME SHINJUKU KU ; SEIKO EPSON CORP TOKIO TOKYO ; SEIKO EPSON CORPORATION ; SEIKO EPSON CORPORATIONJP ; TOKYO R AMP AMP

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Inventor(s): KAMISAKI SANE ; KOIKE YOSHIKAZU SEIKO EPSON CORP ; KOIKE YOSHIKAZU SEIKO EPSON CORPORATION ; KOZAKI MINORU SEIKO EPSON CORPORATION ; MIZUKOSHI ATSUSHI TOKYO R AND D CO ; SASAKI NOBUKI TOKYO R AND D CO ; SASAKI YORIMOTO ; SATO TAKEO TOKYO R AND D CO ; TABATA KUNIO SEIKO EPSON CORP ; TABATA KUNIO SEIKO EPSON CORPORATION ; TAKAGI KUNIHICO SEIKO EPSON CORP ; TAKAGI KUNIHICO SEIKO EPSON CORPORATION ; YAMAKOSHI ISSEI SEIKO EPSON CORP ; YAMAKOSHI ISSEI SEIKO EPSON CORPORATION

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

73) Family number: 28251524 (US2002084705 AA)

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Title: MAGNETIC FLUX CONTROLS FOR PERMANENT-MAGNET MOTOR-GENERATOR

Abstract: A magnetic flux control means for a motor generator, in which an annular member regulates the magnetic flux while the on-off operation of a switching means provides more than one constant voltage depending on the rpm of the rotor. A stator contains high-tension windings, low-tension windings and variable-voltage windings. A controller conducts the switching operation among the windings to produce any desired voltage of, for example a high-tension of 100V, a low-tension of 27V for automotive electrical equipment and a variable voltage for control of an actuator. The annular member may be arranged for angular movement with respect to the stator, either outside or inside the stator.

Classifications:

International (IPC 8-9): H02K1/06 H02K1/16 H02K1/18 H02K1/27 H02K11/00 H02K11/04 H02K21/00 H02K21/14 H02K21/16 H02K21/48 H02K3/00 H02K3/28 H02K3/44 H02K3/48 H02K3/487 H02K7/10 H02K7/12 H02P6/08 H02P6/10 H02P9/00 H02P9/04 H02P9/14 H02P9/30 H02P9/34 H02P9/48

International (IPC 1-7): H02K1/06 H02K1/16 H02K1/18 H02K1/27 H02K11/00 H02K2/114 H02K21/00 H02K21/14 H02K21/16 H02K21/48 H02K3/28 H02K3/44 H02K3/487 H02K7/116 H02K7/12 H02K9/30 H02P9/04 H02P9/34 H02P9/48

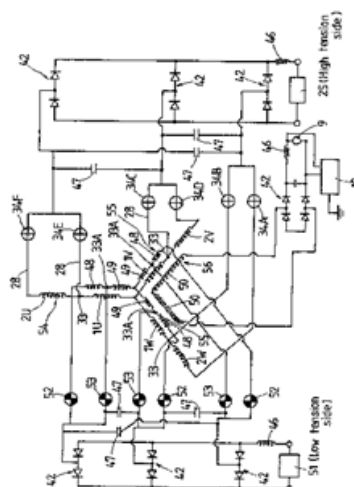
CPC: H02K11/0094 H02K11/048 H02K21/028 H02K21/14 H02K21/48 H02P2101/45 H02P9/305 Y02E20/14

US: 310/191 310/2.54 310/254.1 310/68 310/68.00R 310/68.00RP 310/68R

PatBase - US2002084705 AA

Patent Application Publication Jul. 4, 2002 Sheet 1 of 24 US 2002/0084705 A1

FIG. 1



Family:

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Priority:

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JP20010142630 20010514

Probable Assignee: FINE CO LTD

Assignee(s): (std): KAWAMURA HIDEO

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Inventor(s): (std): KAWAMURA HIDEO

Inventor(s): HIDEO KAWAMURA

Agent(s): BROWDY AND NEIMARK PLLC

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

74) Family number: 33431870 (US2006219496 AA)

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Title: RESIDUAL MAGNETIC DEVICES AND METHODS

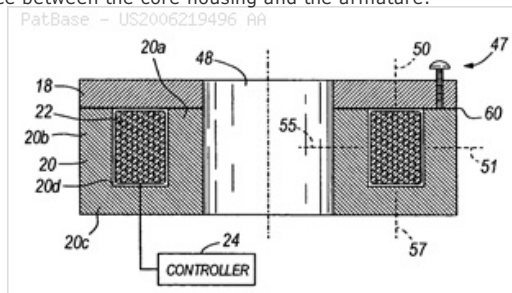
Abstract: Residual magnetic locks, brakes, rotation inhibitors, clutches, actuators, and latches. The residual magnetic devices can include a core housing and an armature. The residual magnetic devices can include a coil that receives a magnetization current to create an irreversible residual magnetic force between the core housing and the armature.

Classifications:

International (IPC 8-9): B60K26/00 B60L7/00 B60L7/10 B60N2/90 B60R25/021 B60R25/08 B60T11/00 B62D15/00 B62D15/02 E05B47/00 E05B47/02 E05B53/00 E05B65/12 E05B81/00 E05B81/08 E05B81/14 E05C17/00 E05C19/16 F16D121/20 F16D125/36 F16D13/75 F16D19/00 F16D23/00 F16D27/00 F16D27/02 F16D27/06 F16D27/112 F16D27/14 F16D37/00 F16D37/02 F16D43/00 F16D43/20 F16D55/08 F16D63/00 F16D65/18 F16D65/28 F16F15/03 F16F9/32 H01F13/00 H01F7/00 H01F7/04 H01F7/08 H01F7/121 H01F7/13 H01F7/18 H01H47/00 H01H47/28 H01H9/00 H02K21/00 H02K21/26 H02K33/02 H02K41/00 H02K49/00 H02K49/10 H02P15/00

CPC: B60R25/021 B60R25/02147 B60R25/08 E05B2047/0073 E05B2047/0076 E05B47/0004 E05B47/0005 E05B47/0006 E05B47/02 E05B53/008 E05B81/00 E05B81/08 E05B81/14 E05B85/26 E05C17/003 E05C19/166 F16D2121/20 F16D2125/36 F16D27/004 F16D27/025 F16D27/06 F16D63/006 F16D65/186 H01F13/00 H01F7/04 H01F7/121 Y10T292/11 F16D27/112 H01F7/08 H02K33/02 B60N2/919 H01F13/006 H01F7/13 H01F7/18 Y10T70/7062 B60L7/00 B60R25/0222 B60R25/04 B60R25/2063 F16D2027/008 F16D2121/22 F16D2127/02 F16D2127/06 F16D2129/08 H02K33/16 Y02T10/64 B60G2300/60 B60R25/005 B62D1/184 H01F13/003 H01F38/14 B60T13/02 F16D2127/08 F16D49/20 Y10T70/7073 Y10T70/7079 Y10T70/7102 B60R25/02 H01F7/124 H01F7/14 B60N2/938 H01F7/1638

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