



(43) International Publication Date
20 September 2012 (20.09.2012)

(51) International Patent Classification:
H02K 7/00 (2006.01)

(21) International Application Number:
PCT/US2012/029563

(22) International Filing Date:
16 March 2012 (16.03.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
13/049,930 17 March 2011 (17.03.2011) US

(72) Inventor; and

(71) Applicant : LEE, Tai Koan [US/US]; 1324 Cordilleras
Avenue, Sunnyvale, California 94087 (US).

(74) Agent: JACKSON, Juneko; Intellectual Property Law
Group LLP, 12 South First Street, 12th Floor, San Jose,
CA 95113 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,

DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ,
OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD,
SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU,
TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,
DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

— with amended claims (Art. 19(1))

Date of publication of the amended claims: 15 November 2012

(54) Title: AUTOMATED POWER GENERATOR

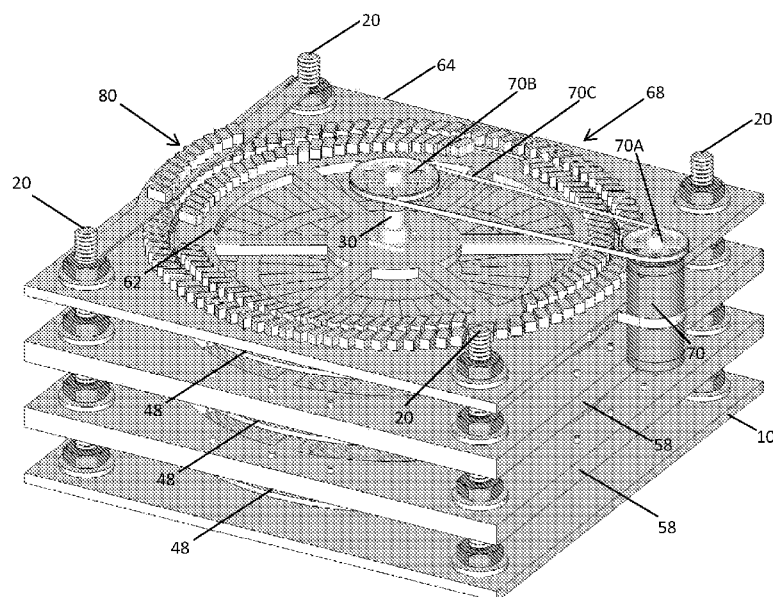


Fig. 1A

(57) Abstract: An embodiment of an automated power generator comprises one base (10), a rotatable main shaft (30) extending perpendicularly from the base (10), three magnet boards (48), two coil boards (58), one or more driving boards (68), motor (70) with a set of transmission device including two pulleys (70A), (70B) and belt (70C), and a brake (80). The base board (10), coil boards (58), fixed board (64) of driving boards (68) are mounted on four threaded rods (20), whereas magnet boards (48) and rotating board (62) of driving board (68) are mounted on shaft (30). The base board (10) is at the very bottom and a driving board (68) is at the top, with five total layers between them - two coil boards (58) sandwiched by three magnet boards (48). Other embodiments are described and shown.



WO 2012/125985 A4

AMENDED CLAIMS

received by the International Bureau on 13 September 2012 (13.09.2012)

1. An automated power generator comprising:

a rotatable main shaft extending perpendicular to a base;

at least one magnet board, positioned perpendicularly to the main shaft and rotatably coupled at its center point to the main shaft;

at least one coil board fixed by a distance away from and parallel to the at least one magnet board such that the magnet board freely rotates about the main shaft, the coil board comprising

a plurality of coil sets;

an aperture through which the main shaft extends through, and

a set of terminals on the coil board;

a motor; and

a transmission device operatively connected to the motor and to the main shaft;

wherein as the motor initiates rotation of the main shaft through the transmission device transmitting rotating motion from the motor to the main shaft, the at least one magnet board rotates parallel to the coil board and power generated from the plurality of coil sets is output through the set of terminals.

2. The automated power generator of claim 1, wherein the magnet board is circular shaped and comprising a plurality of magnet blocks arranged evenly around magnet board along one or more concentric circles, each concentric circle separated by a circular gap, each of the plurality of magnet blocks within each concentric circle having a north to south pole axis perpendicular to the magnet board, with each magnet block positioned alternating in north and south pole direction.

3. The automated power generator of claim 2, wherein the coil board has one or more groups of nine coils, each group arranged along a concentric circle around the main shaft, each concentric circle separated by a circular gap.
4. The automated power generator of claim 3, wherein each group of nine coils comprises of three subgroups of three coils each, each subgroup configured such that a first coil in each subgroup is grouped with a second coil positioned two coils away from the first coil and the second coil is grouped with a third coil positioned two coils away from the second coil.
5. The automated power generator of claim 4, wherein each of the subgroups of three coils are connected such that for each subgroup an outer end of a first coil is connected to an inner end of the second coil and an outer end of the second coil is connected to an outer end of the third coil; and
wherein the subgroup of coils is connected to a first and second outside terminal, the first outside terminal connected to an inner end of the first coil and the second outside terminal connected to an inner end of the third coil.

6. The automated power generator of claim 1, further comprising a driving device positioned parallel to the at least one coil board and at least one magnet board, the driving device comprising:

a fixed board having an inner opening;

a rotating board sized to fit inside the opening of the fixed board, such that the rotating board is freely rotatable inside the opening of the fixed board and rotatably coupled to the main shaft which runs through the center of the rotating board; and

a plurality of magnet blocks positioned on the fixed board and on the rotating board to magnify a torque of said main shaft.

7. The automated power generator of claim 6, wherein a first group of magnet blocks is arranged along an outer circumferential edge of said rotating board such that a north pole to south pole axis of each magnet block rests parallel to a surface of said rotating board; and

wherein each magnet block of the first group is positioned such that the north pole to south pole axis of each magnet block is angled a predetermined degree from the outer circumferential edge, such that the north poles of each magnet block of the first group are concentrically aligned and the south poles of each magnet block of the first group are concentrically aligned.

8. The automated power generator of claim 7, wherein a second group of magnet blocks is arranged along an inner circumferential edge of the fixed board next to the inner opening such that a north pole to south pole axis of each magnet block rests parallel to the surface of said fixed board; and

wherein each magnet block of the second group is positioned such that the north pole to south pole axis of each magnet block is angled a predetermined degree from the inner circumferential edge, and the north poles of each magnet block of the second group are concentrically aligned and the south poles of each magnet block of the second group are concentrically aligned.

9. The automated power generator of claim 8, wherein an odd number of spaces are arranged evenly among the first group of magnet blocks on said rotating board to divide said first group of magnet blocks on the rotating board into a plurality of equal subgroups.

10. The automated power generator of claim 8, further comprising a brake positioned next to the driving device, wherein the brake is a means for holding a plurality of brake magnet blocks; and wherein the brake pivots between an engaged position and a disengaged position,

such that in an engaged position, the brake sits at a close distance to the first group of magnet blocks on the rotating board; the brake magnet blocks are situated to have an opposing magnetic force to the first group of magnet blocks on the rotating board, thereby slowing down a rotation of the rotating board by a magnetic force between opposing poles of the brake magnet blocks and the first group of magnet blocks of the rotating board.