

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 July 2008 (17.07.2008)

PCT

(10) International Publication Number
WO 2008/085466 A1

(51) International Patent Classification:
H02K 15/06 (2006.01)

(21) International Application Number:
PCT/US2007/026312

(22) International Filing Date:
26 December 2007 (26.12.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/877,373 28 December 2006 (28.12.2006) US

(71) Applicant: **SUZUKI, Hiroshi** [JP/US]; 29438 N. Mammoth Lane, Canyon Country, CA 91387 (US).

(71) Applicant and

(72) Inventor: **THOMAS, Peter, Jeffrey** [US/US]; 13561 Fusan Avenue, Sylmar, CA 91342 (US).

(74) Agent: **NELSON, Jeffrey, H.**; Nixon & Vanderhye P.c., 901 North Glebe Road, 11th Floor, Arlington, VA 22203-1808 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

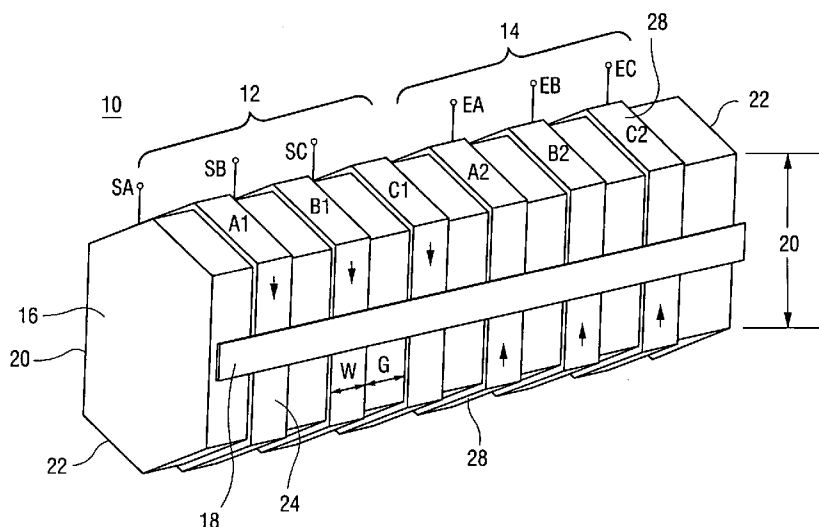
Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(54) Title: COIL WINDING METHODS AND STRUCTURES FOR A SLOTLESS STATOR IN A MOTOR



(57) Abstract: A method to form a field winding for a slotless stator including: forming the first coil group by spirally winding an insulated wire for each coil winding around a mandrel such that each turn of the wire is adjacent a next turn of the wire; after forming the first coil group, axially shifting along the mandrel the insulated wire from a trailing edge of each coil winding to position the wires at a leading edge of each of coil winding in the second coil group; forming the second coil group by spirally winding the insulated wire for each coil winding around a mandrel; removing the mandrel from the wound first and second coil groups; collapsing the wound coil groups to a layer web such that coil winding segments are interleaved; and wrapping the web into a cylinder to form the field winding.

WO 2008/085466 A1