

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 January 2012 (19.01.2012)

(10) International Publication Number
WO 2012/009085 A3

- (51) **International Patent Classification:**
H02K 7/10 (2006.01) *H02K 7/116* (2006.01)
- (21) **International Application Number:**
PCT/US2011/040301
- (22) **International Filing Date:**
14 June 2011 (14.06.2011)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
12/838,095 16 July 2010 (16.07.2010) US
- (71) **Applicant (for all designated States except US):** REMY TECHNOLOGIES, L.L.C. [US/US]; 600 Corporation Dr., 2nd FL, Pendleton, Indiana 46064 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** CHAMBERLIN, Bradley, D. [US/US]; 2627 W. 1000 S., Pendleton, Indiana 46064 (US). PALFAI, Balazs [US/US]; 9085 Rider Drive, Fishers, Indiana 46038 (US).
- (74) **Agent:** KERNUS, Victor; Cantor Colburn Llp, 20 Church Street, 22nd Floor, Hartford, Connecticut 06103 (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, RO, RS, RU, 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, 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).

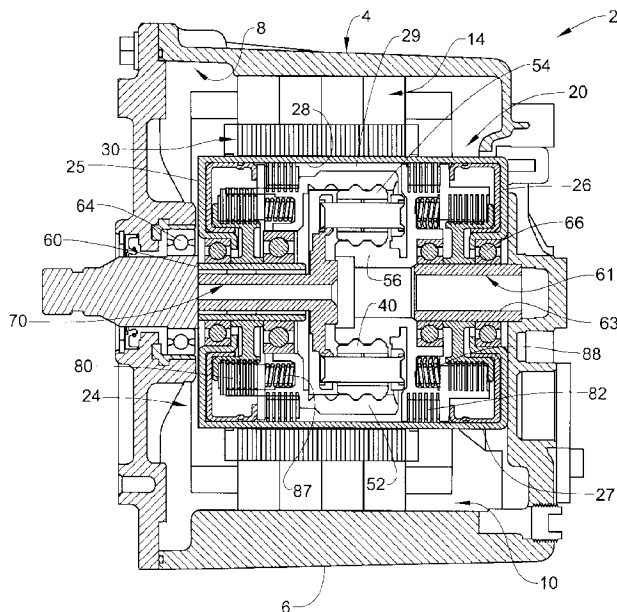
Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) **Title:** ELECTRIC MOTOR HAVING A SELECTIVELY ADJUSTABLE BASE SPEED

FIG. 1



(57) **Abstract:** An electric machine includes a stator mounted within the housing, and a transmission member mounted within the housing and surrounded at least in part by the stator. The transmission member includes a gear mechanism operatively coupled to an output shaft. The transmission mechanism is rotatable relative to the stator.

WO 2012/009085 A3



Published:

(88) Date of publication of the international search report:

5 April 2012

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

A. CLASSIFICATION OF SUBJECT MATTER**H02K 7/10(2006.01)i, H02K 7/116(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H02K 7/10; H02K 7/06; F02N 15/02; F16D 67/06; F16H 3/54; B60L 15/20; F16H 1/28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: motor, transmission, planet gear, sun gear, ring gear, shaft

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US 2006-0244317 A1 (Dennis A. Kramer) 02 November 2006 See the abstract and figures 1-6.	1-4, 8, 9, 13, 16, 17 5, 6 7, 10-12, 14, 15 , 18-20
Y A	JP 2003-120765 A (DENSO CORP.) 23 April 2003 See the abstract and figure 1.	5, 6 7, 10-12, 14, 15 , 18-20
A	US 2007-0062774 A1 (AKAGI, Takayoshi and et al.) 22 March 2007 See the abstract and figures 2-8.	1-20
A	JP 2003-527049 A (WACHAUER, Oskar) 09 September 2003 See the abstract and figures 1-5.	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

08 FEBRUARY 2012 (08.02.2012)

Date of mailing of the international search report

09 FEBRUARY 2012 (09.02.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsa-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

Song Hong Seok

Telephone No. 82-42-481-5661



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/040301

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0244317 A1	02.11.2006	CN 1866686 A	22.11.2006
		EP 1717086 A1	02.11.2006
		JP 2006-345685 A	21.12.2006
		US 7530912 B2	12.05.2009
JP 2003-120765 A	23.04.2003	DE 10246763 A1	17.04.2003
		FR 2830902 A1	18.04.2003
US 2007-0062774 A1	22.03.2007	CN 1935557 A	28.03.2007
		JP 04-812579 B2	02.09.2011
		JP 2007-116888 A	10.05.2007
		JP 2008-043404 A	28.02.2008
		US 7686145 B2	30.03.2010
JP 2003-527049 A	09.09.2003	AT 1332000 A	15.02.2001
		AT 349797 T	15.01.2007
		AT 408210 B	25.09.2001
		AU 2001-28174 A1	07.08.2001
		BR 0107841 A	22.10.2002
		CA 2398181 C	18.05.2010
		CN 1272894 C0	30.08.2006
		CN 1397103 A0	12.02.2003
		DE 50111731 D1	08.02.2007
		EP 1250748 A1	23.10.2002
		ES 2278758 T3	16.08.2007
		JP 4693327 B2	01.06.2011
		TW 595069 A	21.06.2004
		US 2003-0010547 A1	16.01.2003
		US 6749532 B2	15.06.2004
		WO 01-56138 A1	02.08.2001