

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 July 2009 (09.07.2009)

(10) International Publication Number
WO 2009/084870 A3

(51) International Patent Classification:
F03D 3/06 (2006.01)

(21) International Application Number:
PCT/KR2008/007700

(22) International Filing Date:
26 December 2008 (26.12.2008)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2007-0138184
27 December 2007 (27.12.2007) KR

(71) Applicant (for all designated States except US): **GENERAL ROTOR CO., LTD.** [KR/KR]; 217, Establishment And Nurture Center, Univerysity of Incheon, 177, Dohwa-dong, Nam-gu, Incheon 402-060 (KR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **HONG, Jae Ho** [KR/KR]; 21-203, Jogong Apt., 32, Goean-dong, Sosa-gu, Bucheon-si, Gyeonggi-do 422-705 (KR).

(74) Agent: **SONG, Jong Seon**; 2th Floor, Dojin Building, 82, Guro-dong, Guro-gu, Seoul 152-840 (KR).

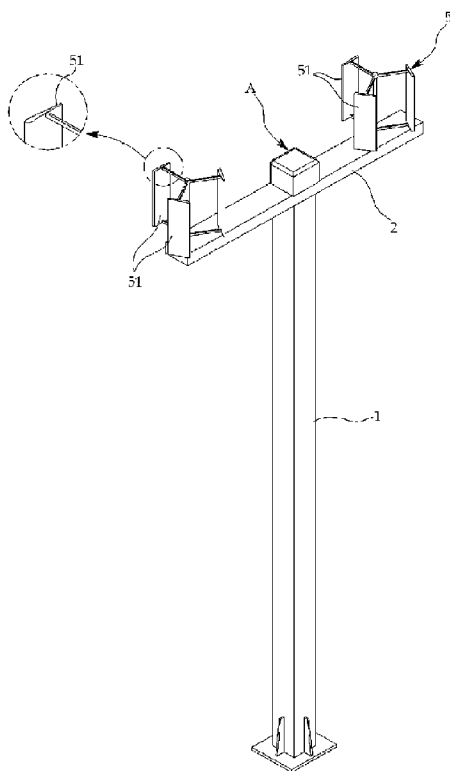
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, 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, ST, 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,

[Continued on next page]

(54) Title: THE VERTICAL AXIS-WIND POWER SYSTEM HAVING MULTIPLE ROTOR BLADE-TYPE

[Fig. 1]



(57) Abstract: The vertical shaft type wind power system having multiple rotor blades comprises a pole which is vertically installed on the ground; a generation part which is installed on a top of the pole and is equipped with a center output side one direction output driving device A; a plurality of horizontally installed rotor frames which is engaged vertically with respect to the pole; and a driving part which includes a plurality of rotor blades installed in an end of each rotor frame and rotating by means of wind, and a rotor side one direction output driving device B which rotates depending on the rotation of the rotor blade and is connected with the center output side one direction output driving device A for thereby transferring a rotational force.



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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *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))*

(88) Date of publication of the international search report:
24 September 2009

Published:

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

A. CLASSIFICATION OF SUBJECT MATTER*F03D 3/06(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)

IPC8 F03D3

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 since 1975
Japanese Utility models and application for Utility Models since 1975

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

KOMPASS (KIPO internal) & keywords: wind power, one way, clutch, rotor, and chain.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| A | JP 11-022626 A(Takahiko Yoshino) 26 January 1999 See page 2, paragraph [0006]; figures 1, 2. | 1 |
| A | JP 2006-052669 A (Rikio Arai) 23 February 2006 See page 4, paragraphs <11> - <17>; figures 1, 2. | 1 |
| A | JP 01-200066 A (Eiji Shinno) 11 August 1989 See page 4, column 2, lines 5 - 9; figure 6. | 1 |
| A | JP 2001-059471 A (Mitsuhiro Kuno) 06 March 2001 See page 6, paragraph [0041] - page 8, paragraph [0063]; figures 1-3. | 1 |
| A | US 4178126 A (Gehres D. Weed) 11 December 1979 See column 2, line 58 - column 3, line 45; figures 1, 5, 9. | 1 |

 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

13 AUGUST 2009 (13.08.2009)

Date of mailing of the international search report

14 AUGUST 2009 (14.08.2009)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

CHOI Jin Hwan

Telephone No. 82-42-481-8433



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2008/007700

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| JP 11-022626 A | 26.01.1999 | None | |
| JP 2006-052669 A | 23.02.2006 | None | |
| JP 01-200066 A | 11.08.1989 | None | |
| JP 2001-059471 A | 06.03.2001 | None | |
| US 4178126 A | 11.12.1979 | None | |