



- (51) International Patent Classification:
F25B 19/04 (2006.01)
- (21) International Application Number:
PCT/US2015/041312
- (22) International Filing Date:
21 July 2015 (21.07.2015)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
62/027,100 21 July 2014 (21.07.2014) US
62/049,105 11 September 2014 (11.09.2014) US
- (71) Applicant: PRIME DATUM DEVELOPMENT
COMAPNY, LLC [US/US]; P.O. Box 789, Canandaigua,
NY 14424 (US).
- (72) Inventors: ROLLINS, Patrick, M.; P.O. Box 789,
Canandaigua, NY 14424 (US). LUCAS, George; P.O. Box
789, Canandaigua, NY 14424 (US).
- (74) Agent: NUZZO, Raymond, A.; Law Offices of Raymond
A. Nuzzo, LLC, 579 Thompson Avenue, East Haven, CT
06512 (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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, ST, SZ,
TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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, KM, ML, MR, NE, SN, TD, TG).

Published:

- 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))

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

17 March 2016

- (54) Title: COOLING TOWER HAVING THERMALLY MANAGED MOTOR

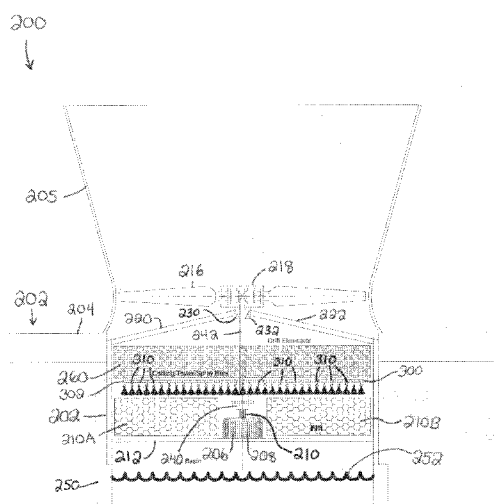


Fig. 3

(57) Abstract: The present invention is directed to a cooling tower comprising a cooling tower structure comprising fill material supported by the cooling tower structure and configured to receive heated process fluid and a motor mounted to the cooling tower structure. The motor comprises a casing and a rotatable shaft and is sealed to prevent fluids, moisture, foreign particles and contaminants from entering the casing. A fan is connected to the rotatable shaft of the motor. Rotation of the rotatable shaft rotates the fan thereby inducing an upward moving mass flow of cool air through the fill material. A basin is attached to the cooling tower structure for collecting cooled fluid.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2015/041312

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - F28C 1/00 (2015.01)

CPC - F28C 1/00 (2015.12)

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)

IPC(8) - F28B 1/06; F28C 1/00, 1/02 (2015.01)

CPC - F28C 1/00; Y10S 261/11, 165/90 (2015.12)

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

USPC 165/900; 261/108, 111, 151, 160, DIG11 (Keyword delimited)

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

PatBase, Google Patents, Google Scholar, Google

Search terms used: motor, fan, impeller, water, liquid, fluid, immerse, submerge, cool, spray, container, vessel, receptacle, tank, reservoir, basin

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2007/0187851 A1 (FACIUS et al) 16 August 2007 (16.08.2007) entire document	1-10
A	US 2006/0125124 A1 (KOPLIN) 15 June 2006 (15.06.2006) entire document	1-10
A	US 2009/0266517 A1 (LIN) 29 October 2009 (29.10.2009) entire document	1-10

☐ 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 another 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

11 December 2015

Date of mailing of the international search report

06 JAN 2016

Name and mailing address of the ISA/

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents

P.O. Box 1450, Alexandria, VA 22313-1450

Facsimile No. 571-273-8300

Authorized officer

Blaine R. Copenheaver

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774