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CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
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KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME,
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Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

(54) Title: WIND-TUNNEL TURBINE VACUUM AIR FLOW GENERATOR

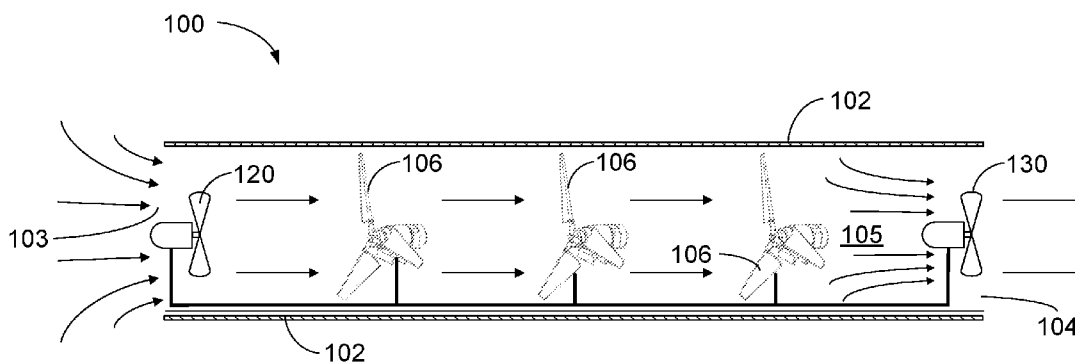


FIG. 1A

(57) Abstract: A wind turbine generator assembly comprising an enclosure forming an air pathway; one or more wind turbines within the enclosure air pathway for generating power from air flow through the air pathway; a powered induction fan located at the upstream end of the enclosure air pathway for directing and accelerating ambient air flow into the enclosure and along the air pathway; and a powered vacuum fan located within the air pathway downstream from at least one wind turbine, the vacuum fan operating to create a negative pressure downstream from the wind turbine to increase air flow across the wind turbine and increase the efficiency of power generation by the wind turbines. In some embodiments, the air pathway within the enclosure forms a straight path with no turns and has a substantially constant cross-section between the location of the induction fan and the vacuum fan.

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))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 19/60734

A. CLASSIFICATION OF SUBJECT MATTER

IPC - F03D 1/02, F03D 9/25 (2020.01)

CPC - F03D 1/025, F03D 9/25, F03D 1/04, F03D 9/11, F05B 2220/706

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)

See Search History document

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

See Search History document

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

See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2014/0090366 A1 (Akbar), 3 April 2014 (03.04.2014), entire document, especially Fig. 1; para [0044]-[0049].	1-8, 9/(1-8)
A	US 2012/0193923 A1 (Freda), 2 August 2012 (02.08.2012), entire document.	1-8, 9/(1-8)
A	US 2011/0274558 A1 (Chase), 10 November 2011 (10.11.2011), entire document.	1-8, 9/(1-8)
A	US 2010/0230974 A1 (Cantwell), 16 September 2010 (16.09.2010), entire document.	1-8, 9/(1-8)
A	US 2010/0207389 A1 (Nyffenegger), 19 August 2010 (19.08.2010), entire document.	1-8, 9/(1-8)
A	US 7,758,299 B1 (Jarecki), 20 July 2010 (20.07.2010), entire document.	1-8, 9/(1-8)
A	US 2009/0155043 A1 (Krippene), 18 June 2009 (18.06.2009), entire document.	1-8, 9/(1-8)



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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INTERNATIONAL SEARCH REPORT

International application No.

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☒ Claims Nos.: 10-44
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.