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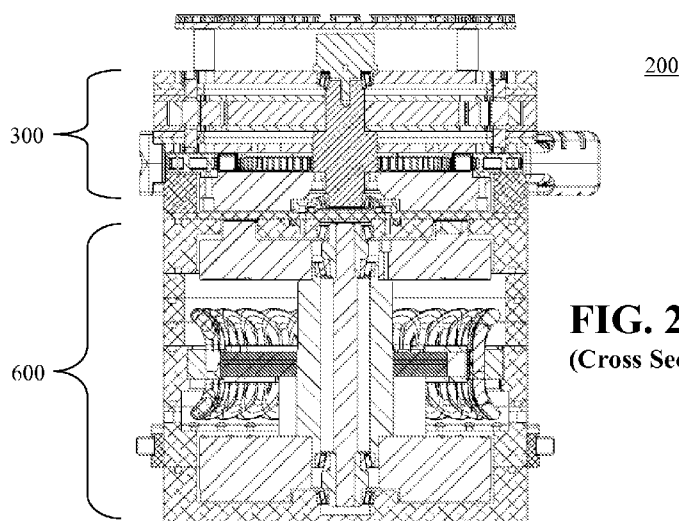
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(54) Title: TURBINE-GENERATOR DRIVEN BY COMPRESSED AIR AND MAGNET MOTOR

**FIG. 2B**
(Cross Section)

(57) Abstract: A turbine assembly (300) includes a turbine flywheel assembly (400) and a magnet motor (600) within a turbine casing (500). The turbine flywheel assembly comprises a turbine flywheel (414) rotatably coupled to a shaft (412), turbine blade assemblies (410) mounted thereon and a magnet motor rotor assembly (270) coupled to the shaft. The magnet motor rotor assembly includes rotor permanent magnets (420) arranged in a ring around the shaft. The same pole of each permanent magnet faces outward away from the shaft. A magnet motor stator assembly (505) comprises stator magnet assemblies (510), each comprising a stator electromagnet (521) and a stator permanent magnet (520), arranged in a ring around the magnet motor rotor assembly to exert repulsive force on the nearest rotor permanent magnet. Selectably controllable nozzles (150) inject compressed air onto the turbine blades. Electromagnet controller(s) individually and selectably activate, deactivate and polarity-switch the stator electromagnets.

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

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 F03D

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

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

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 939 477 A1 (LOPEZ JIMENEZ MIGUEL [ES]) 1 September 1999 (1999-09-01) paragraphs [0004] - [0006], [0028], [0058] - [0059], [0066], [0067], [0084]; figures 1, 3, 6 -----	1, 13
A	WO 91/04603 A1 (HANSON WALTER [AU]) 4 April 1991 (1991-04-04) page 1, line 1 - line 25; figure 1 -----	1, 13
A	US 6 043 577 A (BORNEMANN HANS [DE] ET AL) 28 March 2000 (2000-03-28) column 2, line 23 - column 4, line 31; figure 1 -----	13

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Further documents are listed in the continuation of Box C.

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See patent family annex.

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EP 0939477	A1	01-09-1999	AU 2510397 A 07-11-1997
			DE 69709781 D1 21-02-2002
			DE 69709781 T2 08-08-2002
			EP 0939477 A1 01-09-1999
			ES 2113314 A1 16-04-1998
			US 6320279 B1 20-11-2001
			WO 9739511 A1 23-10-1997

WO 9104603	A1	04-04-1991	NONE

US 6043577	A	28-03-2000	NONE
