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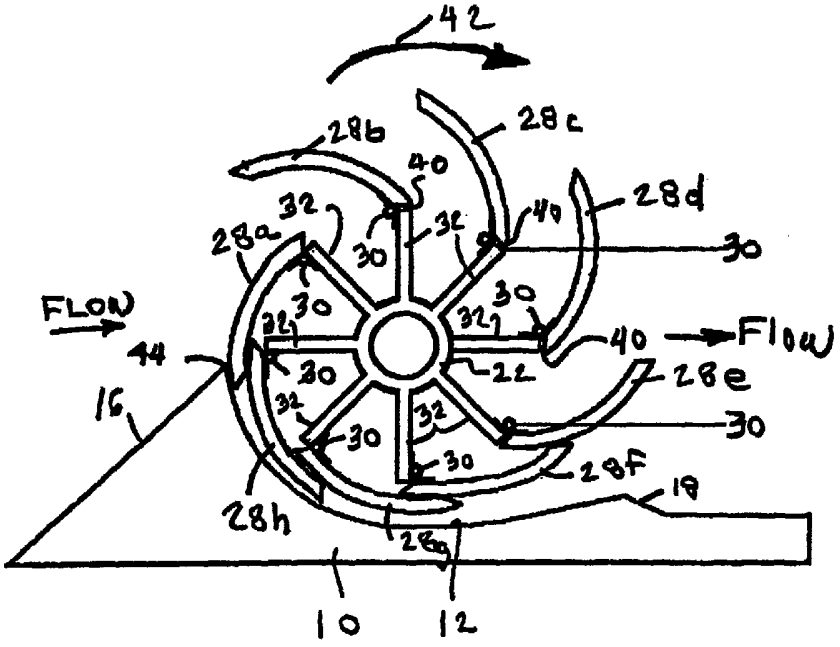
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(54) Title: LOW HEAD, DYNAMIC VARIABLE PITCH, SUBMERSIBLE HYDRO GENERATOR



(57) Abstract: A hydroelectric generator system (14) including a rotor (22) mounted for rotation about its axis on a base (10), and a plurality of hinged vanes (28) mounted to and extend radially outward from the rotor (22). The vanes (28) are designed to open to a fully extended position on the upstream side during a portion of rotation of the rotor (22) and to closed to a nested position during a portion of rotation of the rotor (22), wherein the flow of water from the upstream side to the downstream side impinges upon the vanes (28) and opens them to the fully extended position to drive the rotor (22). The rotor (22) or the vanes (28) may be completely submerged.

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A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : F03B 13/00, 13/10, 13/12; H02P 9/04
US CL : 290/42, 43, 53, 54
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)
U.S. : 290/42, 43, 53, 54

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,006,518 A (GEARY) 28 December 1999 (28.12.1999), Figure 1.	1-3, 5, 11, 12, 15, 23
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Y		4, 6-10, 13, 14, 16-22, 24, 25
Y	US 5,051,059 A (RADEMACHER) 24 September 1991 (24.09.1991), Figure 2.	4, 9, 10, 13, 14, 16-22, 24
Y	US 4,424,451 A (SCHMIDT) 03 January 1984 (03.01.1984), Figures 5, 6.	6-10, 18-20
Y	US 4,301,377 A (RYDZ) 17 November 1981 (17.11.1981), Figure 3.	9, 10, 17-20
Y	US 6,196,805 B1 (REILLEY) 06 March 2001 (06.03.2001), see abstract.	25
A	US 6,499,939 B2 (DOWNING) 31 December 2002 (31.12.2002), Figure 8.	1-25
A	US 302,769 A (PALLAUSCH) 29 July 1884 (28.07.1884), Figure 1.	1-25

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