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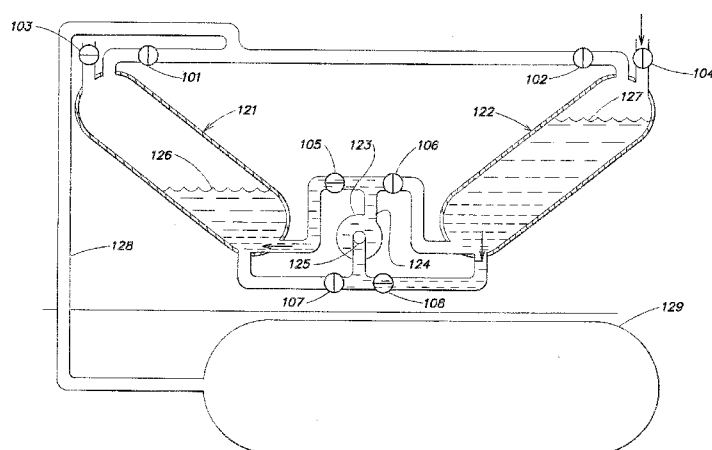


FIG. 1

(57) Abstract: A system for converting electricity into pressurized air, and converting pressurized air into electricity. The system includes a pressurized air reservoir (129), two high pressure tanks (121, 122), a pump (123) and an electrical motor convertible into a hydro turbine and an electricity generator, a volume of water equal to a tank's volume, a set of controllable valves (101, 102, 103, 104, 105, 106, 107, 108) for connecting and disconnecting independently each tank (121, 122) to the atmosphere, to the pump inlet and outlet, and to the air reservoir (129). In use, a volume of water in the first tank (121) is pumped into the second tank (122), the air in the second tank (122) is compressed and flows into the air reservoir (129). By changing position of the valves (101, 102, 103, 104, 105, 106, 107, 108), the operation repeats with opposite roles of the tanks (121, 122). In an electricity generating mode, the system operates by transferring pressurized air from the air reservoir (129) into the first tank (121) which is full of water, the pressurized water flowing through the hydro turbine generator thereby generating electricity.



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INTERNATIONAL SEARCH REPORT

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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)

F03G 7/00; F02C 6/00; F02C 6/16; F03D 9/02; F15B 21/00; F16D 31/02

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 applications for utility models since 1975.

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

eKOMPASS(KIPO internal) & Keywords: pump, pressurized, air, reservoir, tank, storage, and energy

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-0304863 B1 (PARK, MYUONGSOO) 19 October 2001 See page 2, line 34 - page 4, line 11; figures 1-4.	1-16
A	US 3996741 A1 (HERBERG; GEORGE M.) 14 December 1976 See column 2, line 1 - column 4, line 23; figures 1, 2.	1-16
A	US 4660379 A1 (LANE; JAMES K.) 28 April 1987 See column 2, line 64 - column 4, line 38; figure 1.	1-16
A	JP 07-042573 A (MITSUBISHI HEAVY IND LTD) 10 February 1995 See page 2, paragraph [0014] - page 2, paragraph [0022]; figures 1-3.	1-16

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-0304863 B1	19. 10. 2001	None	
US 3996741 A1	14. 12. 1976	None	
US 4660379 A1	28. 04. 1987	None	
JP 07-042573 A	10. 02. 1995	None	