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(54) Title: MULTI-STAGE DESALINATION OF LOW ENTHALPY

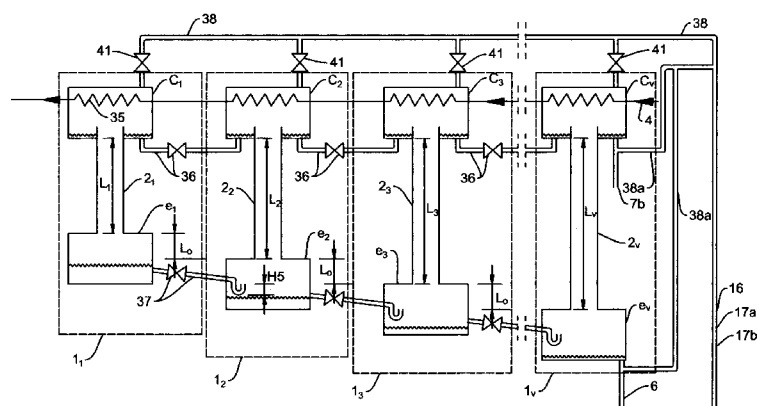


Fig. 7

(57) Abstract: A multi-stage system for low-enthalpy desalination which consists of serially connected evaporators (1_v) consisting of condensers (1_c) arranged on a single level at the top of a tower (40), their respective evaporation chambers (e_v) being arranged at progressively lower levels and connected to the condensers (1_c) via vertical air ducts (2_v) of progressively increasing height. The system is based on the violent/flash boiling of seawater which has been heated to a temperature slightly lower than the boiling point, and introduced in an environment of lower pressure. Passive vacuum is employed, which is generated by applying atmospheric pressure and gravity. Pressure stepping-up (p_v) is achieved by progressive increase in the volume of the evaporators. Air removal is achieved by the dynamic vacuum generated in ejectors (12, 13_a, 13_b) which employ the produced desalinated water and the discharged brine as auxiliary medium.

INTERNATIONAL SEARCH REPORT

International application No
PCT/GR2012/000002

A. CLASSIFICATION OF SUBJECT MATTER INV. B01D1/26 B01D3/06 B01D3/10 B01D5/00 C02F1/04 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) B01D C02F 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) EPO-Internal, WPI Data																	
C. DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>US 2 490 659 A (SNYDER ROBERT E) 6 December 1949 (1949-12-06) column 2, line 19 - column 3, line 65 column 4, line 46 - column 5, line 30 figures 1,2</td> <td>1,6,16</td> </tr> <tr> <td>Y</td> <td>EP 2 248 568 A1 (EBEJER EDWIN [MT]) 10 November 2010 (2010-11-10) cited in the application paragraph [0006] - paragraph [0010] figures 1-3</td> <td>1-16</td> </tr> <tr> <td>Y</td> <td>GB 1 373 771 A (BP CHEM INT LTD [GB]) 13 November 1974 (1974-11-13) page 3, line 101 - line 119 figure 2</td> <td>1-16</td> </tr> <tr> <td></td> <td>-/--</td> <td></td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	US 2 490 659 A (SNYDER ROBERT E) 6 December 1949 (1949-12-06) column 2, line 19 - column 3, line 65 column 4, line 46 - column 5, line 30 figures 1,2	1,6,16	Y	EP 2 248 568 A1 (EBEJER EDWIN [MT]) 10 November 2010 (2010-11-10) cited in the application paragraph [0006] - paragraph [0010] figures 1-3	1-16	Y	GB 1 373 771 A (BP CHEM INT LTD [GB]) 13 November 1974 (1974-11-13) page 3, line 101 - line 119 figure 2	1-16		-/--	
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