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11/025,761 28 December 2004 (28.12.2004) US(71) Applicant (for all designated States except US): **PARSA INVESTMENT, L.P.** [US/US]; 28992 Sean Drive, Laguna Niguel, California 92677 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **PARSA, Komad** [US/US]; 28992 Sean Drive, Laguna Niguel, California 92677 (US).(74) Agent: **BERLINER, Brian, M.; O'MELVENY & MYERS LLP**, 400 South Hope Street, Los Angeles, CA 90071-2899 (US).

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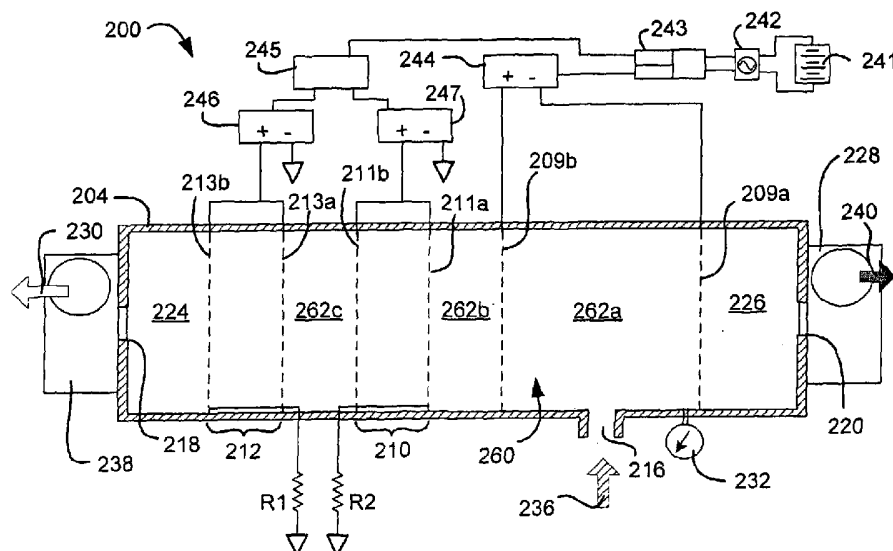
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(54) Title: GAS SEPARATOR FOR PROVIDING AN OXYGEN-ENRICHED STREAM



(57) **Abstract:** A system (200) for separating oxygen from air operates at a pressure less than atmospheric. The oxygen separation system (200) includes an entry port (216) for ambient air, and at least two separate exhaust ports (218, 220) through which separate exhaust streams (238, 240) are drawn by separate suction sources (228, 230). The oxygen separation system (200) further includes a low-energy ionization portion (262a) that favors creation of molecular oxygen ions, and a higher-energy ionization portion (262b-c) disposed between the ionization portion and one of the exhaust ports. A plurality of gas-permeable electrodes (209a-b, 211a-b, 213a-b) are charged to different voltages to provide the different portions inside the separator (200). An exhaust stream (240) taken from the anode side of the separator is enriched in oxygen relative to ambient air.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/33366

A. CLASSIFICATION OF SUBJECT MATTER

IPC: B03C 3/36(2006.01)

USPC: 95/78;96/62

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. : 95/57, 78; 96/15, 60, 62, 63, 66

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3,154,682 A (HARTZ et al) 27 October 1964 (27.10.1964), reference characters 1-9, 13, 14.	1-25
Y	US 4,313,739 A (DOUGLAS-HAMILTON) 02 February 1982 (02.02.1982), figure 1, reference character 17, column 3, line 44 to column 4, line 68.	1-25
A	US 4,066,526 A (YEH) 03 January 1978 (03.01.1978), figure 1, reference character 10.	1-25
A	US 4,919,690 A (LOVELOCK) 24 April 1990 (24.04.1990), figure 1.	1-25
A	US 5,024,685 A (TOROK et al) 18 June 1991 (18.06.1991), figure 1.	1-25
A	US 5,591,253 A (ALTMAN et al) 07 January 1997 (07.01.1997), figures 1-7.	1-25



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See patent family annex.

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Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Richard L. Chiesa

Telephone No. (571) 272-1700

Jean Proctor
Paralegal Specialist