



US00771510B2

(12) **United States Patent**
Ramprasad et al.

(10) **Patent No.:** **US 7,771,510 B2**
(45) **Date of Patent:** **Aug. 10, 2010**

(54) **FIXED BED HYPERSORBER AND FRACTIONATION OF FLUIDS USING THE SAME**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1050 days.

(21) Appl. No.: **10/557,489**

(22) PCT Filed: **May 19, 2004**

(86) PCT No.: **PCT/IB2004/001628**

§ 371 (c)(1),
(2), (4) Date: **Apr. 20, 2006**

(87) PCT Pub. No.: **WO2004/101114**

PCT Pub. Date: **Nov. 25, 2004**

(65) **Prior Publication Data**

US 2007/0056910 A1 Mar. 15, 2007

(30) **Foreign Application Priority Data**

May 19, 2003 (IN) 705/DEL/2003

(51) **Int. Cl.**
B01D 53/02 (2006.01)

(52) **U.S. Cl.** **95/96; 95/148; 96/130**

(58) **Field of Classification Search** **95/96; 95/148; 55/418; 96/130**

See application file for complete search history.

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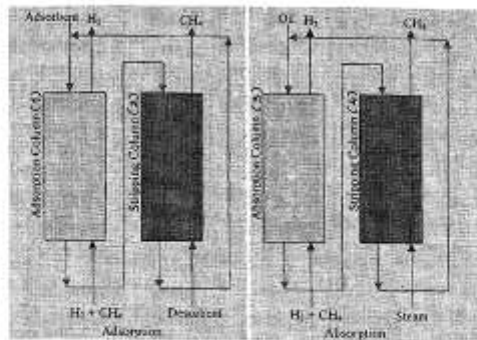
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(57) **ABSTRACT**

The present invention relates to a fixed bed hypersorber having moving ports for injecting and withdrawing fluids which can be used for fractionation of gaseous mixtures in a fixed bed filled with absorbents/adsorbents, where separation is brought about by contacting gaseous mixture in a counter-current fashion. The moving ports may take the form of pistons or pairs of tubes arranged concentrically, where one of the tubes has a straight slot and the other tube has a helical slot. Rotation of the tubes with respect to each other produces the moving port.

23 Claims, 9 Drawing Sheets



Countercurrent process - Adsorption vs. Absorption