

New Inventions

W.C. DREYFUSS: MINERAL SEPARATOR SYSTEM

Patent: ZA 90/4145, filed 30/5/90, accepted 22/1/91. Assignee: W.C. Dreyfuss.

A mineral separator system providing for the removal of conductor and semiconductor materials from a pulp fluid containing non-conducting materials. Pairs of spaced magnet assemblies provide alternate or successive magnetic fields obliquely across a separation chamber through which the pulp fluid flows. Eddy currents set up in the conductors cause the conductor particles to migrate to a wall in accordance with the orientation of the magnetic field. Electrical stimulation of the semiconductors through the pulp fluid causes the semiconductors to have eddy currents induced therein.

A. IWATA ET AL.: HGMS OF COMPOUNDS FROM SEAWATER

Japanese Patent: Kokai Tokkyo Koho, Japan 90,203,934

Assignee: Kawasaki Heavy Industries Ltd.

Application no. 89/21,929, January 30, 1989

Priority date: 13 August 1990

A mixture of ferromagnetic fibres, a powdered paramagnetic or ferromagnetic adsorbent, and optionally magnetic powder are dispersed in a fluid in a magnetic field to selectively adsorb components from the fluid. The method is especially applicable for separation of uranium from seawater.

L. VOZNICA ET AL.: DRUM SEPARATOR OF FERROMAGNETIC METALLIC PARTICLES FROM LOOSE MATERIAL

Czechoslovak Patent No. 268 408

Application no. PV 7663-87.0, October 26, 1987

Priority date: August 14, 1989

Published: August 31, 1990

J.M.J. PAIXAO: CONCENTRATION OF TITANIA FROM ANATASE ORES

Brazilian Patent No. 88/5053

Application Date: 30 September 1988

Published: 15 May 1990, Publicacao de Pedido de Privilegio (A) Brazil 88 05053

M. HOLLITT ET AL.: REFINING OF ILMENITE BY REMOVAL OF EXCESS CHROMITE

Intl. Patent Application No. WO 90/04656, 1989

A substantial amount of chromite can be removed from ilmenite by solid-state reduction above 1000 °C, followed by the removal of iron by oxidative leaching, aqueous aeration in the presence of an activator, or thermal oxidation roasting. The final step in the process is the physical removal of the chromium from the titanium by magnetic separation. The procedure removes about two-thirds of the Cr₂O₃ content, and results in the recovery of more than 80% of the TiO₂.

H.KAMETANI AND T. KOMURO: COBALT CREST RECOVERY FROM DEEP-SEA SEDIMENTARY ROCKS

Japan Kokai Tokkyo Koho JP 90,218,445 (31 August 1990, Appl. 88/157, 495, 25 June 1988).

The Co crest on deep-sea sedimentary parent rocks is recovered by magnetic separation. The Co crest-covered parent rocks are crushed, calcined at 500-900° C in an oxidising, inert or weakly reducing gas atmosphere in the presence of carbonaceous additive, and then magnetically separated to recover Co. The yield is approximately 80 per cent.