

OTHER BATTERIES**5498951****METHOD AND APPARATUS FOR CHARGING
ELECTRIC DOUBLE LAYER CAPACITOR**

Okamura Michi; Morimoto Takeshi; Hiratsuka Kazuya
Kanagawa, JAPAN assigned to JEOL Ltd

Method and apparatus for quickly and efficiently charging an electric double layer capacitor. The capacitor is charged by a constant-current power supply which is preferably a current controlled output type switching power supply. To cause the voltage across the terminals of the capacitor to reach its working voltage in a short time, the capacitor is overcharged for a short time. Where the capacitor is charged with a solar battery, a constant-current output type switching regulator is interposed between the solar battery and the capacitor.

5500308**ELECTROCHEMICAL CELL HAVING AN
INNER SEAL MEMBER**

West Jack T; Annen James H; Schneider Daniel A;
Kokoszka Marek McFarland, WI, UNITED STATES
assigned to Rayovac Corporation

This invention pertains to electrochemical cells, and specifically to an inner seal member in an electrochemical cell. The inner seal member is positioned against, and in intimate contact with that portion of the separator which extends above the cathode mix, or a retaining washer on the cathode mix, and is also in intimate contact with the cathode mix or the retaining washer. The seal member is preferably emplaced as a fluid material and is preferably distributed by centrifugal force, by rotating the cell as the sealant material is dispensed into the cell. The inner seal member is effective to retard loss of battery performance over an extended period of storage time, both at room temperature and at elevated temperature. The seal member is a composition of hydrocarbons or fatty acid ester oils having the capacity to remain in full surface-to-surface contact, as it cools, with the surfaces upon which it is placed warm or hot, in the cell.

5506065**ELECTROLYTE-ACTIVATED BATTERY**

Tribioli Silvano; Giardinelli Vito; Rocco Francesco;
Cerrano Franco Leghorn, ITALY assigned to
Whitehead Alenia Sistemi Subacquei SpA;
Microtecnica SpA

An electrolyte-activated battery, particularly for generating electric energy for the propulsion of underwater systems, and presenting a reservoir, an electrochemical cell, and a system for forming and circulating the electrolyte between the reservoir and the electrochemical cell; the electrolyte forming and circulating system presenting an inlet conduit communicating with the outside environment, a circulating pump, a device for regulating the temperature of the electrolyte at the inlet of the electrochemical cell, and a gas separator located at the outlet of the cell and presenting a liquid phase outlet connectable to the circulating pump, and a gaseous phase outlet connected to an outlet conduit; the inlet and outlet conduits presenting respective closure members facing and rigidly connected to each other so that they are subjected to the same but opposite hydrostatic pressures, and which are movable between a closed position and an open position wherein they are housed inside the respective conduits.

5506067**RECHARGEABLE ELECTROCHEMICAL
CELL AND CELL CASE THEREFOR
WITH VENT FOR USE IN INTERNAL
RECOMBINATION OF HYDROGEN AND
OXYGEN**

Tinker Lawrence Woodstock, GA, UNITED STATES
assigned to AER Energy Resources Inc

A case for a rechargeable electrochemical cell comprises a vent disposed in the case interior, the vent including an oxygen/hydrogen recombination catalyst for catalyzing the recombination of the hydrogen produced by the cell during the recharge mode with oxygen in the case interior to form water in the case interior. The vent comprises a vent support extending

inwardly from the cell case shell, a gas permeable, electrolyte impermeable vent cover membrane adjacent the interior surface of the vent support, and a foraminous catalyst support disposed in the case adjacent the interior surface of the vent cover membrane so that the vent cover membrane is sandwiched between the catalyst support and the vent support. Oxygen from the ambient air permeates the vent cover membrane and recombines with the hydrogen in the cell case interior. A rechargeable electrochemical cell comprising the cell case is encompassed and the cell is desirably a metal-air cell.

5506072

**REVERSIBLE HIGH ENERGY CAPACITY
METAL-SULFUR BATTERY AND
METHOD OF MAKING SAME**

Griffin Eric B; Edling Jack V San Diego, CA,
UNITED STATES assigned to Griffen Eric B

A reversible high energy capacity battery and method of making that battery. A cathode is formed by packing a mixture of from about 10 to 90 weight percent finely divided sulfur and from about 90 to 10 weight percent finely divided graphite about an electrically conductive electrode, preferably in a porous enclosure. This cathode and a reactive metal anode are placed in a case of suitable configuration which is non-reactive with other components. An electrolyte is prepared by dissolving a metal solute and an ionic sulfide solute in a polar solvent, such as water. Buffering agents, conditioners and complexing agents may be added to the electrolyte to improve battery life and performance.

5506076

ALKALI SECONDARY BATTERY

Miyamoto Kunihiko; Fukuju Takeshi; Sugimoto Ken
Tokyo, JAPAN assigned to Toshiba Battery Co Ltd

This invention discloses an alkali secondary battery which includes a cadmium-free positive electrode whose swelling ratio is decreased, and in which the cycle characteristic is improved and the charge efficiency in use at high temperatures is also improved. This alkali secondary battery includes a positive electrode accommodated in a case and having a structure in which a paste containing nickel hydroxide grains, a conductor, and a binder is filled in a metal porous body, a negative electrode accommodated in the case and so arranged as to oppose the positive electrode with a separator sandwiched between them, and an alkali electrolyte contained in the case. The nickel hydroxide grains contained in the positive electrode have a structure in which cobalt and at least one transition metal selected from the group consisting of copper, bismuth, chromium, gallium, indium, lanthanum, scandium, and yttrium are coprecipitated with metal nickel at a ratio of 1.5 to 11.0 wt % with respect to nickel hydroxide.

5508123

POWER SUPPLYING DEVICE

Fan Chih-Lung Taipei, CHINA (TAIWAN) assigned
to Wey Henn Co Ltd

A power supplying device including a body portion having an inner end with a vertical wall on which are mounted a pair of electrodes, the vertical wall having a bottom extending outwardly to form a battery seat, the battery seat having a bed provided with two opposite grooves one at each side thereof and a spring-loaded retainer member close to an outer edge of the battery bed, a dry battery pack including a housing and a cover, the housing being for receiving dry batteries and provided at one end with two openings for mounting a pair of electrodes, the housing having a bottom formed with two flanges one at each side thereof and a slot close to another end of the housing, and a rechargeable battery pack including a casing and a covering plate, the casing being for receiving rechargeable batteries, the covering plate having a cavity adapted to receive the retainer member, the casing having a bottom formed with two flanges one at each side thereof.