

5501916**BATTERY HAVING A THROUGH-HOLE
AND HEAT DISSIPATING MEANS**

Teramoto Kazunori; Sugeno Naoyuki Fukushima,
JAPAN assigned to Sony Corporation

A battery has a through-hole traversing a battery main body and opened to outside. The battery has a vessel having a central through-hole, and a spiral-shaped electrode, made up of a strip-shaped positive electrode and a strip-shaped negative electrode wound about a cylindrical core a number of times with a separator in-between, is mounted in the battery vessel so that an opening of the cylindrical core is substantially coincident with the through-hole in the battery vessel. The battery vessel is sealed after charging a liquid electrolyte. One or more thin metal plates are inserted and secured in the through-hole, or one or more heat-dissipating fins are radially formed around the opening end of the through-hole. The battery has good heat-dissipating properties and is superior in strength and energy density.

5501918**THERMAL MANAGEMENT OF
RECHARGEABLE BATTERIES**

Gruenstern Robert G; Bast Ronald J; Aldecoa Julin;
Miller Lawrence Muskego, WI, UNITED STATES
assigned to Globe-Union Inc

Thermal management of flat pack rechargeable batteries is accomplished by providing extensions on individual cell housing components, which extensions are connected to provide open air channels between individual cells. In an alternate embodiment of the invention, cells within the stack are filled with a thermally conductive liquid, such as a silica gel, to assist in heat dissipation from adjacent cells.

5504991**APPARATUS AND METHOD FOR
CONNECTING AND SECURING BATTERY
PACKS TO BATTERY POWERED
VEHICLES AND/OR BATTERY
CHARGING DEVICES**

Parmley Daniel W Tempe, AZ, UNITED STATES

The present invention relates to an apparatus that connects and secures a battery pack to a battery powered vehicle and/or a battery charging device. The apparatus eliminates the use of the installer's hands on or near the battery cables or any other current carrying devices. The apparatus is comprised of a frame located around a perimeter portion of the battery pack, a first connector slidably coupled to the frame, a second connector coupled to the first connector and to a battery powered vehicle and/or a battery charging device, and a handle pivotally coupled to the frame and to the first connector for coupling the first connector to the second connector.

5508597**QUICK EXCHANGE BATTERY
APPARATUS FOR BATTERY POWERED
VEHICLES AND METHOD THEREFOR**

Parmley Dan Tempe, AZ, UNITED STATES

An apparatus for storing and changing battery packs from a battery powered vehicle. The battery powered vehicle drives toward a light source which aligns the battery powered vehicle with the apparatus. The apparatus is moved in a horizontal plane to a position underneath a battery holding location on the battery powered vehicle. An operator moves pneumatic carrier to a position directly underneath a battery pack located in the battery holding location. The apparatus is then moved in a vertical plane so that the pneumatic carrier engages a bottom section of the battery pack. The pneumatic carrier is then activated thereby lifting the battery pack on a cushion of air. This allows the