

**5642028****COMBINED RECHARGABLE BATTERY  
AND CHARGER ASSEMBLY**Tai Ming-Hwa; Wang Jung-Hung Taipei Hsien,  
CHINA (TAIWAN)

A rechargeable battery assembly including a charging circuit and an electric plug assembly for connecting external power supply to the charging circuit, the charging circuit including an AC power input means to receive AC power supply, voltage dropping and power supply rectifying means connected to the AC power input means to drop AC power supply voltage and to change AC power supply into DC power supply, a battery, voltage detection and power supply control means, switch means connected between the voltage dropping and power supply rectifying means and controlled by the voltage detection and power supply control means to charge the battery.

**5642029****CONSTANT CURRENT BATTERY  
CHARGER WITH AUXILIARY OUTPUT  
FOR PORTABLE APPARATUS**Seragnoli Giordan Agrate Brianza, ITALY assigned to  
SGS-Thomson Microelectronics S r l

An auxiliary power supply line for powering the functional circuits of a portable apparatus during recharging of its internal battery by a constant current battery charger is derived from a node upstream of a sensing resistance of the current delivered to the battery under charge and is provided with isolation means.

**5642030****CHARGE CONTROL CIRCUIT**Seelye David D Charlevoix, MI, UNITED STATES  
assigned to Seelye Equipment Specialists

A control circuit including a relay switch having a fixed terminal adapted to be coupled to a terminal of the battery or the charging source, a normally-closed contact

terminal adapted to be coupled to a terminal of the other of one of the battery and the charging source, a normally-open contact terminal, and a relay coil. The control circuit further includes a comparator circuit for coupling to terminals of the battery to sense the voltage of the battery, and coupled to the relay coil to energize the relay coil causing a connection between the fixed terminal and the normally-open terminal of the relay switch when the voltage of the battery exceeds a first voltage threshold and to de-energize the relay coil causing a connection between the fixed terminal and the normally-closed contact terminal of the relay switch when the charging voltage of the battery falls below a second voltage threshold.

**5642031****BATTERY RECHARGING SYSTEM WITH  
STATE OF CHARGE DETECTION THAT  
INITIALLY DETECTS WHETHER A  
BATTERY TO BE CHARGED IS ALREADY  
AT OR NEAR FULL CHARGE TO  
PREVENT OVERCHARGING**Brotto Daniele C Baltimore, MD, UNITED STATES  
assigned to Black & Decker Inc

A state of charge test is first performed on the battery by applying a current pulse and then observing the voltage decay characteristics which result. Batteries which are initially nearly fully charged exhibit a larger voltage decay than batteries which are not as fully charged. The result of this initial state of charge test is used to determine how to best terminate battery charging. In this way battery overcharging is prevented regardless of the initial state of charge of the battery.

**5642100****METHOD AND APPARATUS FOR  
CONTROLLING THERMAL RUNAWAY IN  
A BATTERY BACKUP SYSTEM**

Farmer Walter E McDonough, GA, UNITED STATES

An energy management system comprising a method and an apparatus for controlling thermal runaway in a telecommunications switching station backup battery