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Lee

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(54) **MULTI-CHEMISTRY BATTERY CHARGING SYSTEM AND METHOD OF IDENTIFYING AND IMPROVED CHARGING TECHNIQUE FOR PRIMARY AND SECONDARY DRY-CELL BATTERIES**

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See application file for complete search history.

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(57) **ABSTRACT**

A microprocessor controlled multi chemistry battery charging system and method for recharging primary and secondary batteries are disclosed. The charger has multiple battery holder bays with different recess levels to accept up to four batteries of different sizes and different chemistry types particularly Primary Alkaline, Primary Titanium, Rechargeable Alkaline Manganese (RAM), NiCd and NiMH batteries. The microprocessor controlled electronic circuit automatically identifies the type of battery to be charged by monitoring and comparing voltage responses over preset time by supplying constant charging current. Depending upon the type of battery, the charger controls suitable charging current or current pulses at different frequencies till battery voltage reaches preset maximum reference voltage or battery voltage remains relatively constant below preset maximum reference voltage over preset time period. The charger has built in safety protections, battery tester function, audio visual arrangements to display status, a variable DC output port and USB ports.

14 Claims, 6 Drawing Sheets

