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(54) **ARCING PREVENTION THROUGH INPUT VOLTAGE LOOP**

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(57) **ABSTRACT**

Systems and methods for operating a battery charger are described. A controller of a battery charger can measure an input voltage of power being provided to an input port of a battery charger. The controller can, in response to the input voltage being less than a reference voltage, operate an input voltage control loop to regulate a voltage level of the input voltage to a predetermined voltage level. The voltage difference, between the plug voltage of a power source and the receptacle voltage of a power sink, can be regulated below an arcing voltage. The controller can, in response to a lapse of a predetermined amount of time, discharging the input voltage.

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