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**Obala Bhuvanesh et al.**

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(54) **PRE-CHARGING MECHANISM FOR MULTI-INPUT SWITCHING CHARGER**

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See application file for complete search history.

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(57) **ABSTRACT**

A circuit for a switching charger includes multiple input supply nodes, and a number of charging paths. Each input supply node is connectable to a power source. Each charging path may include a middle node connected to a coupling switch and a pass transistor. The coupling switch may be configured to activate a corresponding charging path of the charging paths. A pre-charging switch may be coupled to a corresponding middle node of each charging path. The pass transistor of an activated one of the charging paths may be configured to provide a switching voltage at an input of a charging sub-circuit. The pre-charging switch may be configurable to pre-charge a middle node of a non-activated path to a high voltage to prevent an unwanted high current passing through a body diode of a corresponding pass transistor of the non-activated path.

**29 Claims, 6 Drawing Sheets**

