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(12) **United States Patent**  
**Fischer et al.**

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(54) **UNIVERSAL SERIAL BUS ADAPTER FOR A MOBILE DEVICE**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(57) **ABSTRACT**

(65) **Prior Publication Data**  
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An adapter for providing a source of power to a mobile device through an industry standard port is provided. In accordance with one aspect of the invention, the adapter comprises a plug unit, a power converter, a primary connector, and an identification subsystem. The plug unit is operative to couple the adapter to a power socket and to receive energy from the power socket. The power converter is electrically coupled to the plug unit and is operable to regulate the received energy from the power socket and to output a power requirement to the mobile device. The primary connector is electrically coupled to the power converter and is operative to couple to the mobile device and to deliver the outputted power requirement to the mobile device. The identification subsystem is electrically coupled to the primary connector and is operative to provide an identification signal.

**Related U.S. Application Data**

(63) Continuation of application No. 10/087,629, filed on Mar. 1, 2002, now Pat. No. 6,936,936.  
(60) Provisional application No. 60/273,021, filed on Mar. 1, 2001, provisional application No. 60/330,486, filed on Oct. 23, 2001.

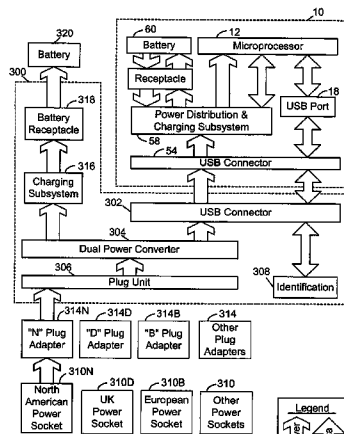
(51) **Int. Cl.**  
**H01M 10/46** (2006.01)

(52) **U.S. Cl.** ..... **320/111**

(58) **Field of Classification Search** ..... 320/111,  
320/138, 114; 307/150, 151

See application file for complete search history.

**18 Claims, 4 Drawing Sheets**



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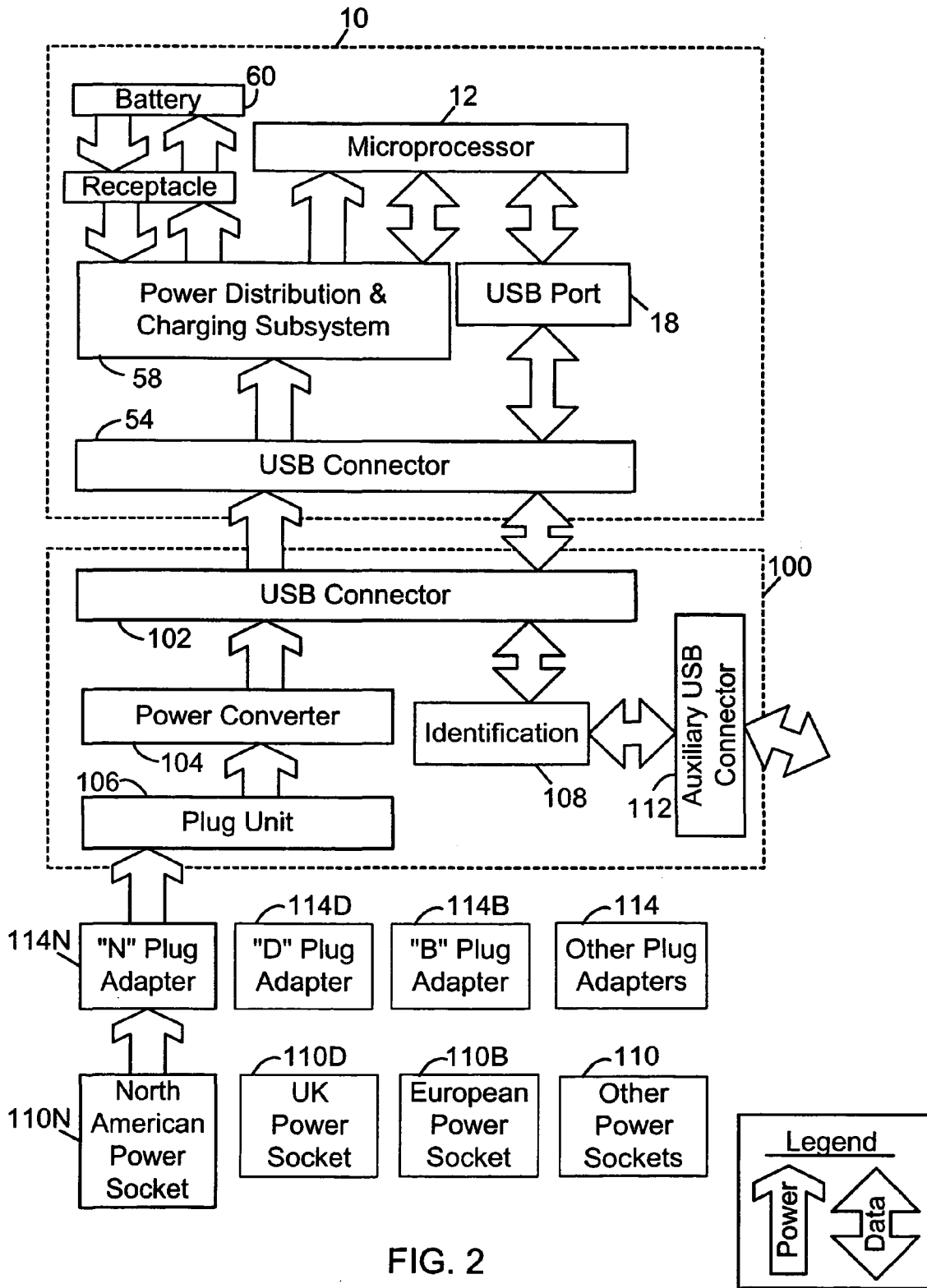


FIG. 2

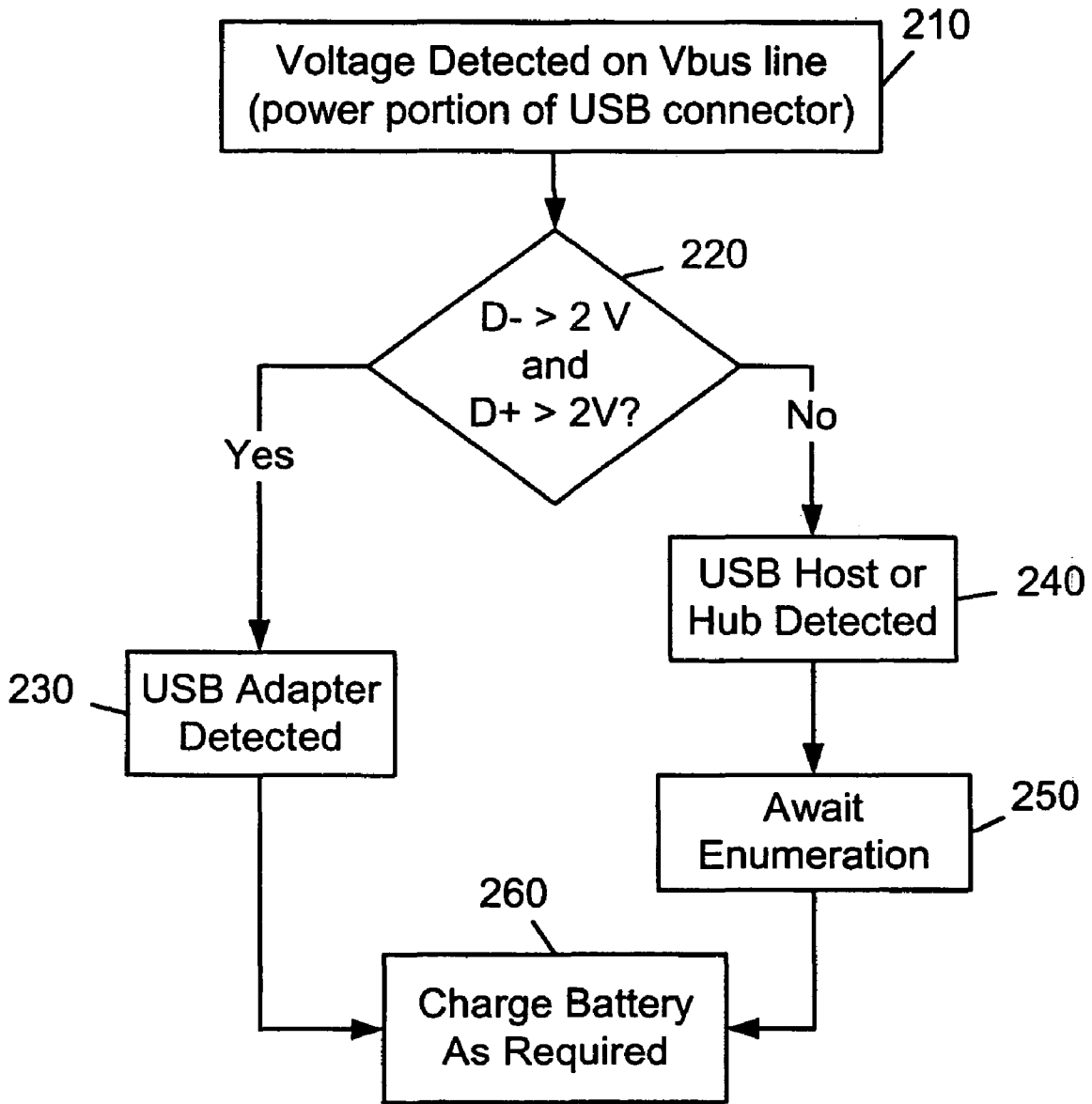


FIG. 3

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