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Vorenkamp et al.

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(54) **INCREASING EFFICIENCY OF WIRELESS POWER TRANSFER**

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Related U.S. Application Data

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(51) **Int. Cl.**
H02J 7/04 (2006.01)
H02J 7/00 (2006.01)

(52) **U.S. Cl.**
USPC **320/108**; 320/107; 320/114; 320/156; 320/158; 320/162

(58) **Field of Classification Search** 320/108, 320/104, 155, 156, 157, 158, 159, 160, 162, 320/163, 164, 165
See application file for complete search history.

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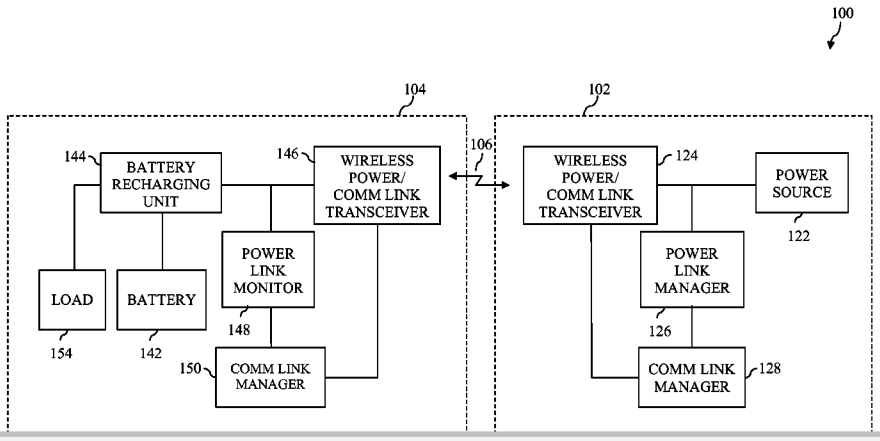
(57) **ABSTRACT**

Techniques are described herein that are capable of increasing efficiency of wireless power transfer. A wireless power transfer system includes features that allow the system to be deployed in public spaces such as airports or in commercial establishments such as restaurants or hotels to allow a user to recharge one or more portable electronic devices while away from home. To accommodate wireless recharging of a variety of device types and states, the system may receive parameters and/or state information associated with a portable electronic device to be recharged and may control the wireless power transfer in accordance with such parameters and/or state information. For instance, the system may increase efficiency of the wireless power transfer based on such parameters and/or state information. The system may also provide a secure and efficient means for obtaining required payment information from the user prior to the wireless power transfer, thereby facilitating fee-based recharging.

21 Claims, 25 Drawing Sheets



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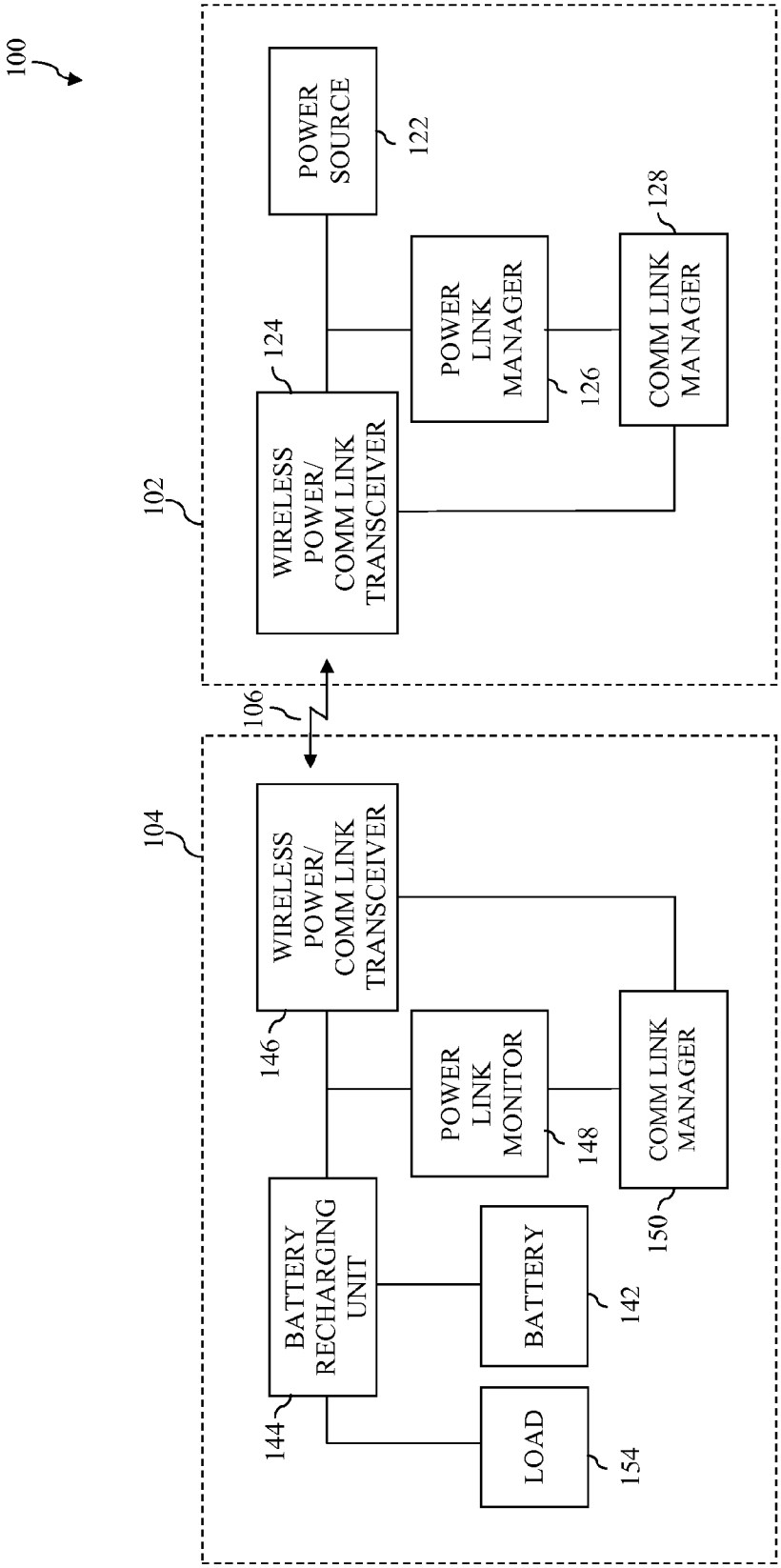

FIG. 1

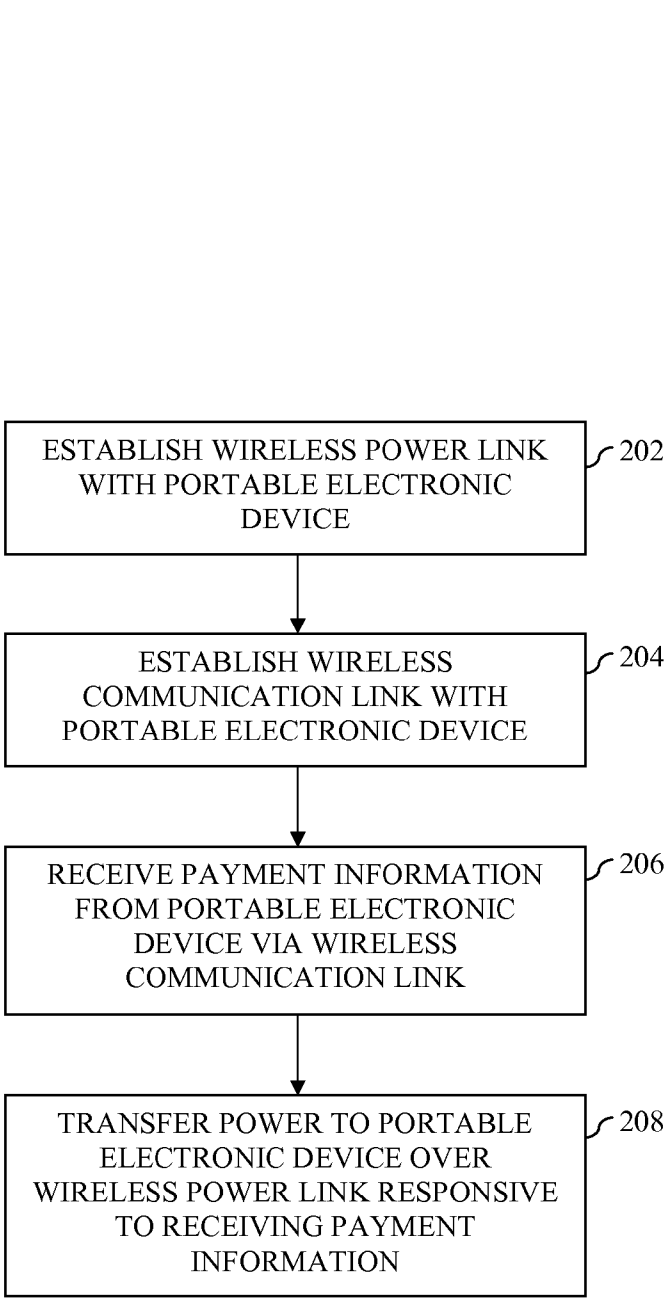

FIG. 2

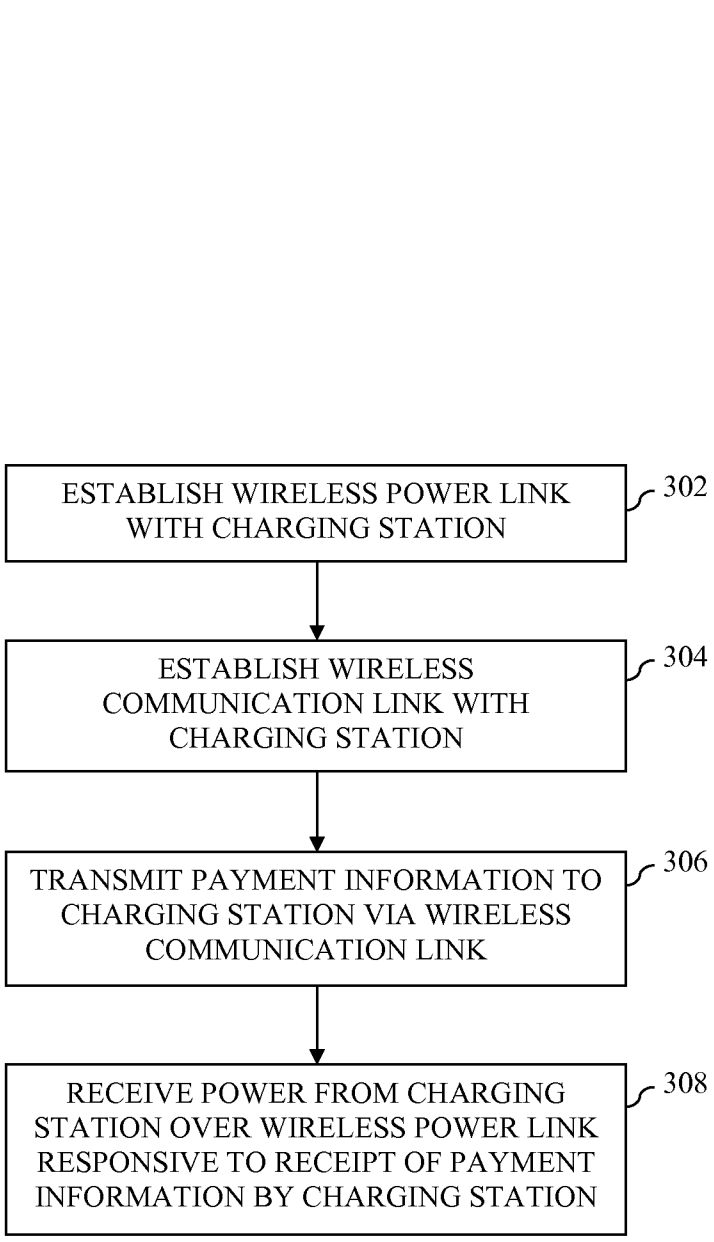

FIG. 3

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