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(54) **APPARATUS, SYSTEM AND METHOD TO WIRELESSLY CHARGE/DISCHARGE A BATTERY**

(71) Applicant: **Garrity Power Services, LLC**,
Rockwall, TX (US)

(72) Inventors: **Paul Garrity**, Rockwall, TX (US);
Aaron Jungreis, Ra'anana (IL)

(73) Assignee: **Garrity Power Services LLC**,
Rockwall, TX (US)

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H02J 7/00 (2006.01)
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H02J 7/04 (2006.01)

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CPC **H02J 7/025** (2013.01); **H02J 7/04** (2013.01)

(58) **Field of Classification Search**
CPC .. Y02E 60/12; H02J 7/025; H02J 7/04; H01F 38/14; Y02T 90/122; B60L 11/182
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See application file for complete search history.

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Primary Examiner — Yalkew Fantu

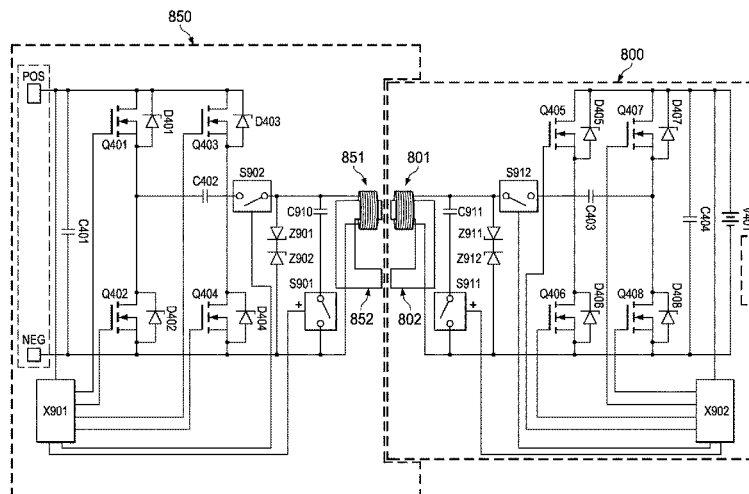
Assistant Examiner — Mohammed J Sharief

(74) Attorney, Agent, or Firm — Boisbrun Hofman, PLLC

(57) **ABSTRACT**

An apparatus, system and method to wirelessly charge and/or discharge a battery. In one embodiment, the apparatus includes a removable first magnetic core piecepart having a surrounding first metallic coil and configured to be coupled to and aligned with a second magnetic core piecepart having a surrounding second metallic coil to form a transformer. The apparatus also includes a battery metalically coupled to the first metallic coil and configured to be charged and discharged through an electrically isolating path of the transformer.

20 Claims, 11 Drawing Sheets



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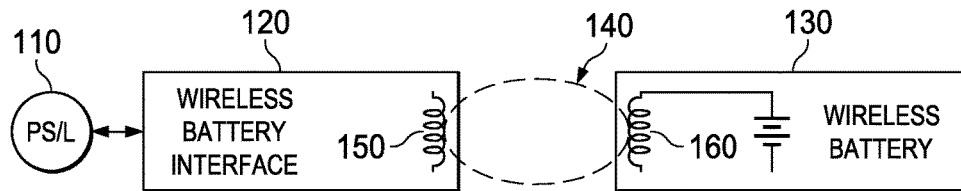


FIG. 1

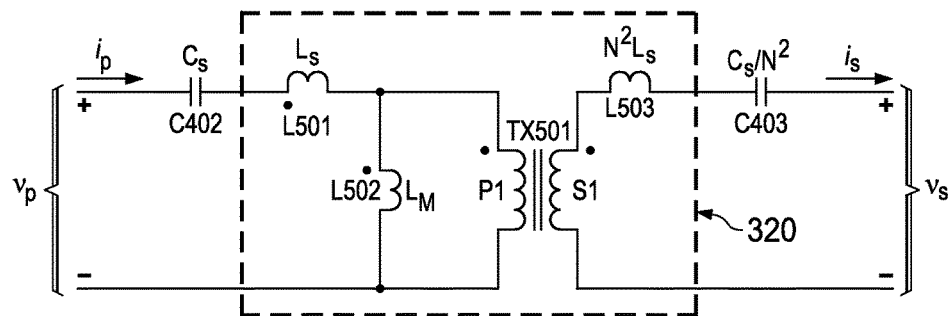


FIG. 3

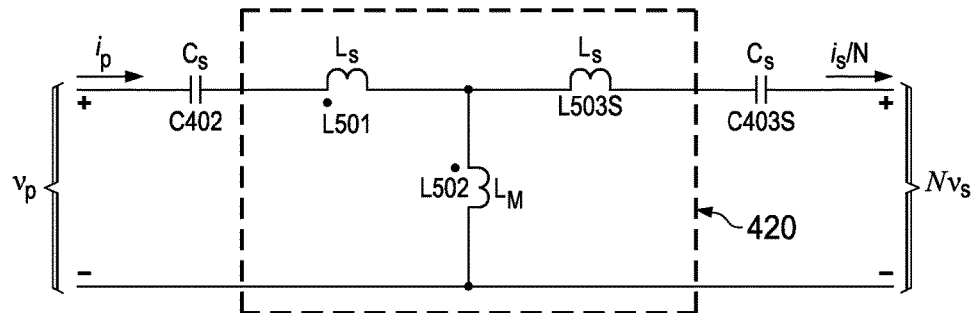


FIG. 4

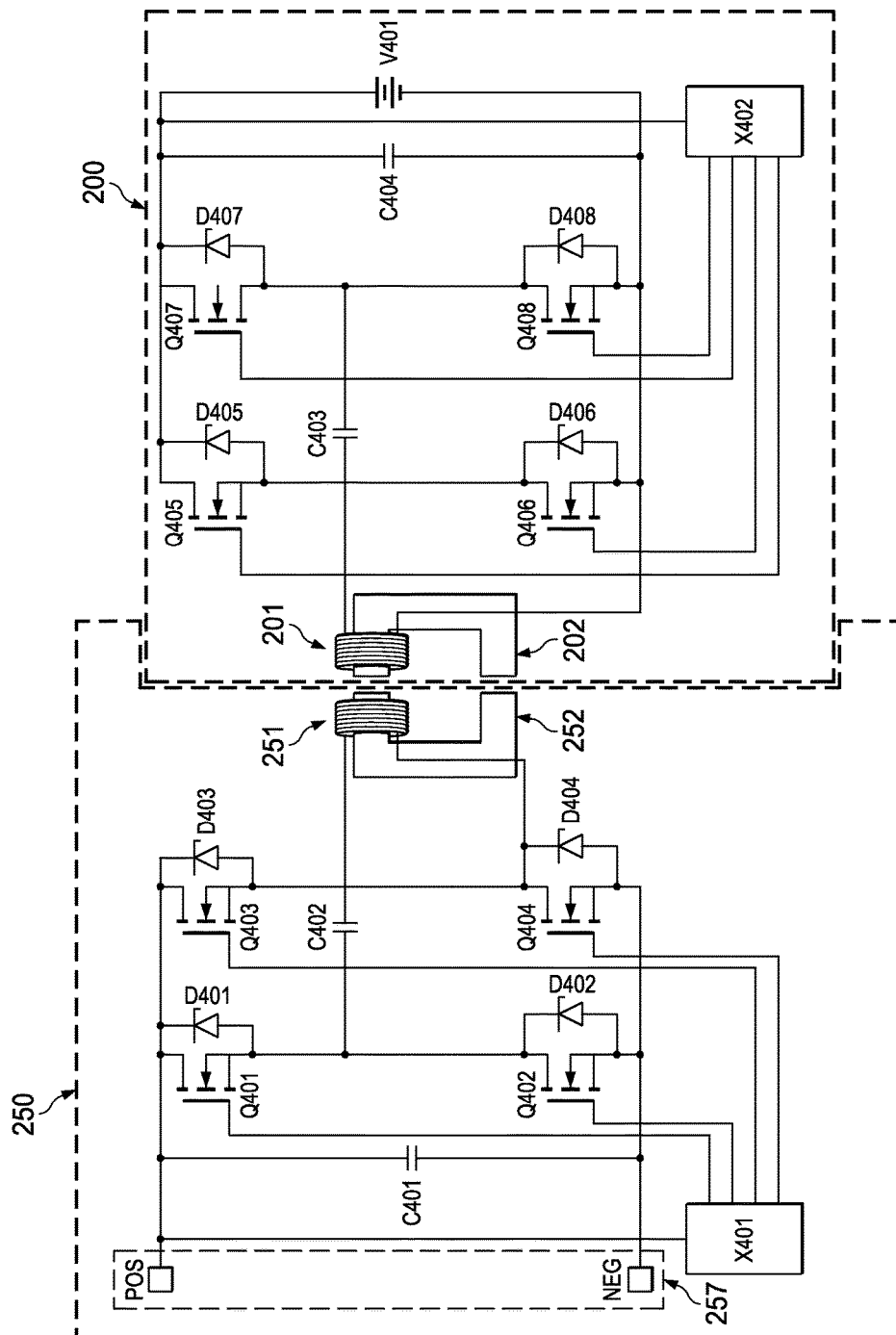
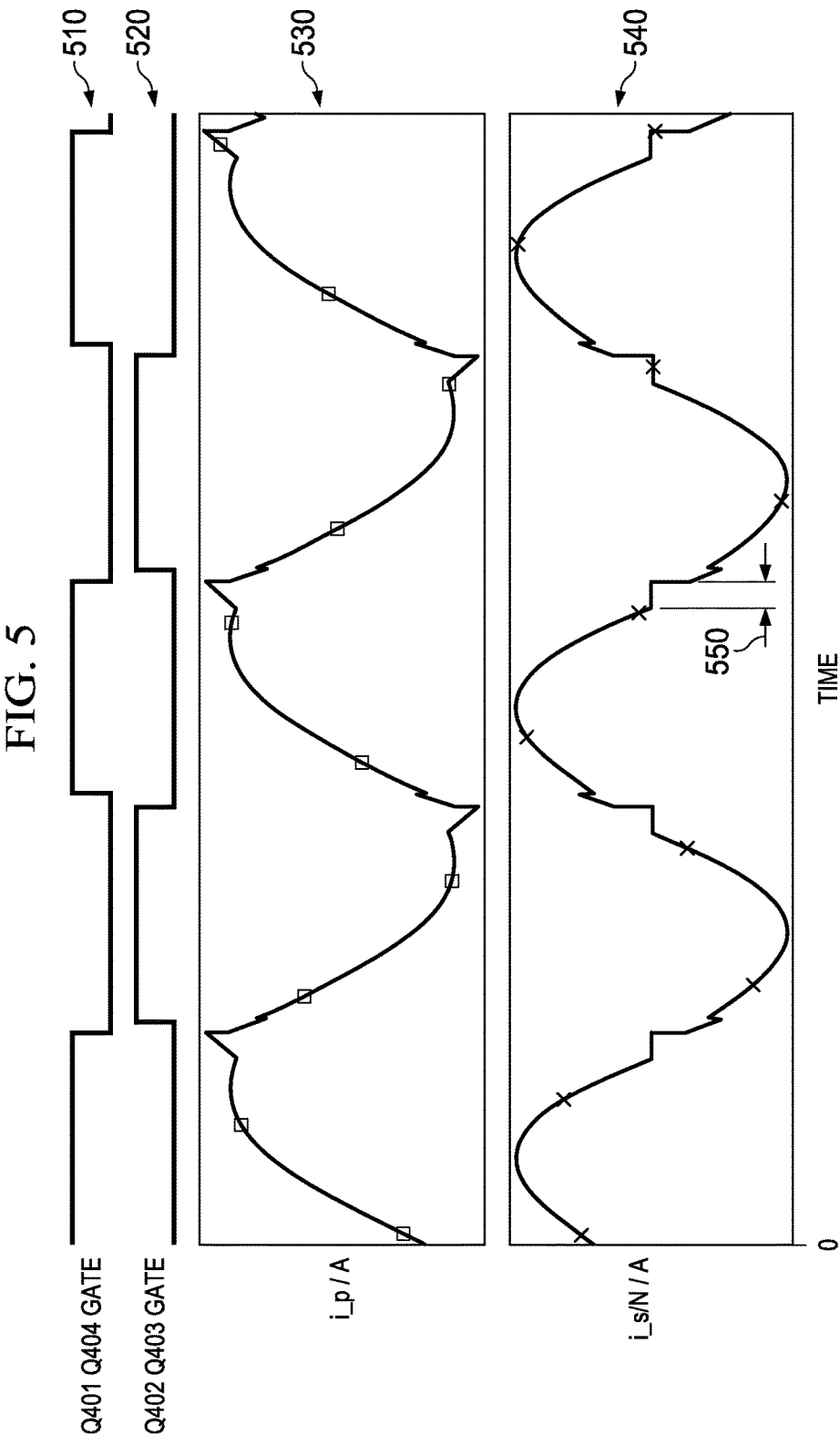


FIG. 2





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