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(54) **SIMULTANEOUS CHARGING AND POWER EXPORT USING N-LEG CONVERTER**

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(71) Applicant: **Rivian IP Holdings, LLC**, Plymouth, MI (US)

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(72) Inventors: **Mohammad Nanda R. Marwali**, Irvine, CA (US); **Zahra Mohajerani**, Los Angeles, CA (US); **Muhammad Mobeen Mahmood**, Irving, TX (US); **Yuxiang Shi**, Cary, NC (US); **Yanjun Shi**, Torrance, CA (US)

(57)

ABSTRACT

Systems and methods for simultaneously generating a charging signal and a power signal via a converter having a first leg, a second leg, a third leg, and a fourth leg are disclosed herein. An alternating current (AC) source input voltage having a fundamental frequency of a power system is received. The charging signal is generated by the first leg and the second leg and the power signal is generated by the second leg, the third leg, and the fourth leg. The second leg is switched at the fundamental frequency and the first leg, the third leg, and the fourth leg are switched at frequencies higher than the fundamental frequency.

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