



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

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(54) **AUTOMOBILE CHARGER**

(58) **Field of Classification Search**

(71) Applicant: **PILOT INC.**, City of Industry, CA (US)

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This patent is subject to a terminal disclaimer.

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**Related U.S. Application Data**

(63) Continuation of application No. 17/131,113, filed on Dec. 22, 2020, which is a continuation of application (Continued)

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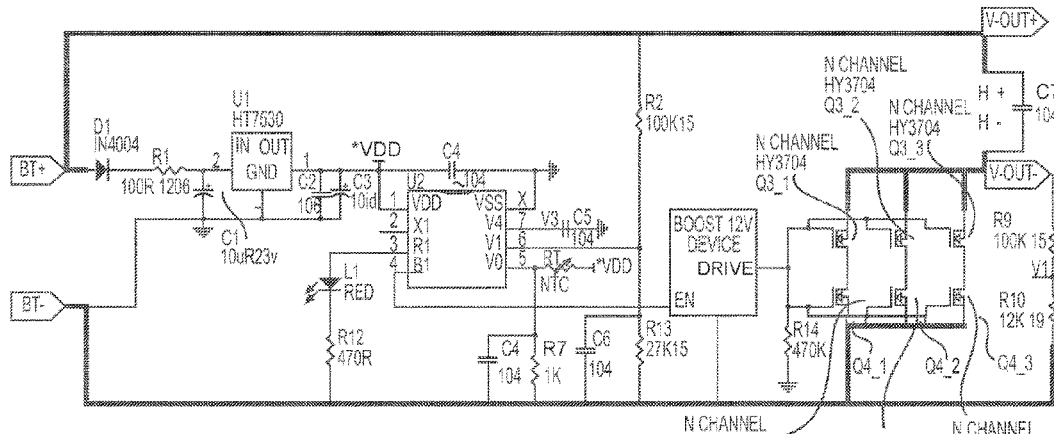
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(57) **ABSTRACT**

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

A novel automobile charger which comprise a battery, wherein a positive pole of the battery is connected with a first end of a DC to DC module, a first end of a battery voltage detection module and a first end of a load module simultaneously, while a negative pole of the battery is connected with a second end of the DC to DC module, a first end of a microcontroller, a first end of an automobile start control module and a second end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with a second end of the microcontroller, the three second ends of which are connected with a third end of the battery voltage detection module, a second end of the automobile start control module and a first end of the load detection module respectively. A second end (Continued)

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of the load detection module is connected with a third end of the automobile start control module and a second end of the load module simultaneously.

**24 Claims, 2 Drawing Sheets**

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- (51) **Int. Cl.**  
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- (52) **U.S. Cl.**  
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- (58) **Field of Classification Search**  
USPC ..... 320/109  
See application file for complete search history.

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