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TANABE et al.(10) **Pub. No.: US 2024/0222967 A1**(43) **Pub. Date: Jul. 4, 2024**(54) **POWER SUPPLY SYSTEM**(71) Applicant: **DENSO CORPORATION**, Kariya-city
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ABSTRACT

A power supply system includes a main relay provided on a high-voltage path between a high-voltage battery and electrical equipment, a charging relay provided on a charging path connected between the main relay and the electrical equipment, and a control device that controls opening and closing of the main relay and the charging relay. The control device, the main relay, and the charging relay operate using electrical power supplied from a low-voltage battery. In a state in which the main relay and the charging relay are closed, the high-voltage battery is charged by charging it with power supplied from a charging device. In addition, the power supply system includes a relay interruption unit that interrupts the charging relay before interrupting the main relay if a voltage reduction abnormality of the low-voltage battery has occurred under a state in which both the main relay and the charging relay are closed.

