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

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(54) **SELF POWERED ELECTRIC VEHICLE  
CHARGING CONNECTOR LOCKING  
SYSTEM**

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(57) **ABSTRACT**

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A self powered electric vehicle charging connector locking  
system for locking and unlocking a charging connector of an  
electric vehicle charging cord includes an electric vehicle  
charging station and an electric vehicle charging connector  
locking holster. The electric vehicle charging station includes  
an electricity control device to energize and de-energize the  
charging cord to control a supply of electricity available to  
flow through the charging cord. Current does not flow through  
the charging cord when it is de-energized and some amount of  
current is capable of flowing through the charging cord when  
it is energized. The electric vehicle charging connector lock-  
ing holster includes a charging connector locking holster inlet  
to receive the charging connector of the charging cord and a  
locking unit to lock the charging connector in the locking  
holster when it is inserted into the charging connector locking  
holster inlet and unlock the charging connector from the  
locking holster responsive to the charging cord becoming  
energized.

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(58) **Field of Classification Search** ..... 439/34,  
439/133, 135, 148, 304, 347, 372, 528; 320/107,  
320/108, 109, 111

See application file for complete search history.

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**20 Claims, 14 Drawing Sheets**

