{CLAIMS}

{Claim 1}

A charging system for an automated parking garage equipped with

a pallet on which a vehicle is placed; and

a transport path along which the pallet is transported in a predetermined direction, the charging system being provided in the automated parking garage to charge a vehicle battery in a motor-driven vehicle parked on the pallet,

the charging system comprising:

a plurality of power-supplying connection units arranged at predetermined intervals on the transport path in the transport direction and connected to a power supply means;

a power-receiving connection unit that is disposed on the pallet and that comes into contact with the power-supplying connection units at predetermined positions during transportation of the pallet; and

an outlet unit that is disposed on the pallet, that is electrically connected to the power-receiving connection unit, and that relays power supplied from the power-supplying connection units to the motor-driven vehicle,

wherein the power-receiving connection unit is shaped to extend over a predetermined length in a moving direction of the pallet, and

wherein the plurality of power-supplying connection units

are positioned such that the power-receiving connection unit remains in contact with a contact of at least one of the power-supplying connection units irrespective of the position of the pallet on the transport path.

{Claim 2}

The charging system for an automated parking garage according to Claim 1,

wherein the power-receiving connection unit has a sliding groove whose perpendicular cross-section is shaped to surround the contacts of the power-supplying connection units from thereabove,

wherein the contacts are configured to be biased from therebelow so as to be pressed into sliding contact with an inner top surface of the sliding groove, and

wherein entry guides are disposed at both ends of the sliding groove, the entry guides being widened in a funnel shape such that the contacts are easily guided into the sliding groove through both ends thereof.

{Claim 3}

The charging system for an automated parking garage according to Claim 2, wherein the contacts of the power-supplying connection units are disposed so as to be movable relative to the position of the transport path in a vertical

direction and in a forward and backward direction by predetermined amounts of positional adjustment, and at a free position where the contacts are not guided in the sliding groove, the contacts are positioned within the openings of the entry guides as viewed in the transport direction of the transport path.

{Claim 4}

The charging system for an automated parking garage according to any one of Claims 1 to 3,

wherein the transport path is provided at each of a plurality of levels,

the charging system further comprising:

an elevator-type raising/lowering platform that is positioned at an end of the transport paths and that circulates the pallet on the transport paths; and

a raising/lowering platform connection unit that is disposed on the raising/lowering platform, that is connected to the power supply means, and that comes into contact with the power-receiving connection unit,

wherein the raising/lowering platform connection unit is positioned such that, when the pallet is moved between the transport paths and the raising/lowering platform, the power-receiving connection unit remains in contact with at least one of: the contacts of the power-supplying connection units and

a contact of the raising/lowering platform connection unit.

{Claim 5}

The charging system for an automated parking garage according to any one of Claims 1 to 4, wherein the charging system further comprises a power-indicating means for indicating that the pallet is being supplied with power.

{Claim 6}

An automated parking garage comprising the charging system according to any one of Claims 1 to 5.

CLAIMS

{Claim 1}

A charging system for an automated parking garage equipped with

a pallet on which a vehicle is placed;

a transport path along which the pallet is transported in a predetermined direction and which is provided at each of a plurality of levels; and

an elevator-type raising/lowering platform that circulates the pallet on the transport paths, the charging system being provided in the automated parking garage to charge a vehicle battery in a motor-driven vehicle parked on the pallet,

the charging system comprising:

a plurality of power-supplying connection units arranged at predetermined intervals on the transport path in the transport direction and connected to a power supply means;

a raising/lowering platform connection unit that is disposed on the raising/lowering platform and that is connected to the power supply means,

a power-receiving connection unit that is disposed on the pallet and that comes into contact with the power-supplying connection units and the raising/lowering platform connection

unit at predetermined positions during transportation of the pallet; and

an outlet unit that is disposed on the pallet, that is electrically connected to the power-receiving connection unit, and that relays power supplied from the power-supplying connection units and the raising/lowering platform connection unit to the motor-driven vehicle,

wherein the power-receiving connection unit is shaped to extend over a predetermined length in a moving direction of the pallet,

wherein the plurality of power-supplying connection units are positioned such that the power-receiving connection unit remains in contact with a contact of at least one of the power-supplying connection units irrespective of the position of the pallet on the transport path, and

wherein the raising/lowering platform connection unit is positioned such that, when the pallet is moved between the transport paths and the raising/lowering platform, the power-receiving connection unit remains in contact with at least one of: the contacts of the power-supplying connection units and a contact of the raising/lowering platform connection unit.

{Claim 2}

The charging system for an automated parking garage according to Claim 1,

wherein the power-receiving connection unit has a sliding groove whose perpendicular cross-section is shaped to surround the contacts of the power-supplying connection units and the raising/lowering platform connection unit from thereabove,

wherein the contacts are configured to be biased from therebelow so as to be pressed into sliding contact with an inner top surface of the sliding groove, and

wherein entry guides are disposed at both ends of the sliding groove, the entry guides being widened in a funnel shape such that the contacts are easily guided into the sliding groove through both ends thereof.

(Claim 3)

The charging system for an automated parking garage according to Claim 2, wherein the contacts of the power-supplying connection units and the raising/lowering platform connection unit are disposed so as to be movable relative to the position of the transport path and the elevator-type raising/lowering platform in a vertical direction and in a horizontal direction by predetermined amounts of positional adjustment, and at a free position where the contacts are not guided in the sliding groove, the contacts are positioned within the openings of the entry guides as viewed in the transport direction of the transport path.

{Claim 4}

The charging system for an automated parking garage according to any one of Claims 1 to 3, wherein the charging system further comprises a power-indicating means for indicating that the pallet is being supplied with power.

{Claim 5}

An automated parking garage comprising the charging system according to any one of Claims 1 to 4.