{CLAIMS}

{Claim 1}

A charging device that is annexed to a multilevel mechanical parking facility including a pallet that conveys an electric vehicle inside a parking facility structure with the electric vehicle placed on the pallet, the charging device comprising:

a power reception device for charging the electric vehicle, provided on the pallet; and

a power transmission device for supplying electric power of an external power supply to the power reception device by contacting the power reception device, provided to the parking facility structure, wherein

the power reception device has a power reception unit that receives power supply from the power transmission device and a receptacle unit to which a charging cable of the electric vehicle is connected, with the power reception unit and the receptacle unit integrated, the power reception device is installed on an upper surface of a curb portion provided at a side edge portion of the pallet so as to dispose the receptacle unit to be lied on the power reception unit,

the power reception unit includes a contact housing and a power reception contact, the contact housing having an opening that opens toward an outer side in a width direction of the pallet, the power reception contact disposed on a position set

back to an inner side in the width direction of the pallet from the opening of the contact housing, and

the power reception contact receives power supply by contacting a power supply contact at the power transmission device.

{Claim 2}

The charging device for a multilevel mechanical parking facility according to claim 1,

wherein a width dimension of the power reception device is set to fit in the curb portion.

{Claim 3}

The charging device for a multilevel mechanical parking facility according to claim 1,

wherein electrical conduction is achieved by shortening a relative distance between the power reception device and the power transmission device, whereby bringing one of the power supply contact and the power reception contact into contact with the other one with one of the contacts resiliently pressed against the other one.

{Claim 4}

The charging device for a multilevel mechanical parking facility according to claim 3,

wherein the power reception contact has a contact surface in a direction orthogonal to a relative moving direction of the power transmission device, and

the power supply contact is in a form of elastic rod urged by a spring from the power transmission device to extend toward the contact surface of the power reception contact.

{Claim 5}

The charging device for a multilevel mechanical parking facility according to any one of claims 1 to 4,

wherein the power transmission device is provided with a cover member that covers an upper side of the power supply contact, and the cover member is urged in a direction to protrude toward the power reception device and configured to retrieve toward the power transmission device after abutment with the power reception device by shortening relative distance between the power reception device and the power transmission device.

{Claim 6}

The charging device for a multilevel mechanical parking facility according to any one of claims 3 to 5,

wherein the power transmission device comprises a plurality of power supply contacts which are disposed in a horizontal direction and integrally rotatable by a

predetermined angle around a vertical shaft provided at the power transmission device.

{Claim 7}

The charging device for a multilevel mechanical parking facility according to any one of claims 1 to 6,

wherein a pole member is interposed between the power reception unit and the receptacle unit, both of which constitute the power reception device.

{Claim 8}

A multilevel mechanical parking facility including the charging device according to any one of claims 1 to 7.

CLAIMS:

{Claim 1}

A charging device that is annexed to a multilevel mechanical parking facility including a pallet that conveys an electric vehicle inside a parking facility structure with the electric vehicle placed on the pallet, the charging device comprising:

a power reception device for charging the electric vehicle, provided on the pallet; and

a power transmission device for supplying electric power of an external power supply to the power reception device by contacting the power reception device, provided to the parking facility structure, wherein

the power reception device has a power reception unit that receives power supply from the power transmission device and a receptacle unit to which a charging cable of the electric vehicle is connected, with the power reception unit and the receptacle unit integrated, the power reception device is installed on an upper surface of a curb portion provided at a side edge portion of the pallet so as to dispose the receptacle unit to be lied on the power reception unit,

the power reception unit includes a contact housing and a power reception contact, the contact housing having an opening that opens toward an outer side in a width direction of the

pallet, the power reception contact disposed on a position set back to an inner side in the width direction of the pallet from the opening of the contact housing, and

the power reception contact receives power supply by contacting a power supply contact at the power transmission device.

{Claim 2}

The charging device for a multilevel mechanical parking facility according to claim 1,

wherein a width dimension of the power reception device is set to fit in the curb portion.

{Claim 3}

The charging device for a multilevel mechanical parking facility according to claim 1,

wherein electrical conduction is achieved by shortening a relative distance between the power reception device and the power transmission device, whereby bringing one of the power supply contact and the power reception contact into contact with the other one with one of the contacts resiliently pressed against the other one.

{Claim 4}

The charging device for a multilevel mechanical parking

facility according to claim 3,

wherein the power reception contact has a contact surface in a direction orthogonal to a relative moving direction of the power transmission device, and

the power supply contact is in a form of elastic rod urged by a spring from the power transmission device to extend toward the contact surface of the power reception contact.

{Claim 5}

The charging device for a multilevel mechanical parking facility according to any one of claims 1 to 4,

wherein the power transmission device is provided with a cover member that covers an upper side of the power supply contact, and the cover member is urged in a direction to protrude toward the power reception device and configured to retrieve toward the power transmission device after abutment with the power reception device by shortening relative distance between the power reception device and the power transmission device.

{Claim 6}

The charging device for a multilevel mechanical parking facility according to any one of claims 3 to 5,

wherein the power transmission device comprises a plurality of power supply contacts which are disposed in a

horizontal direction and integrally rotatable by a predetermined angle around a vertical shaft provided at the power transmission device.

{Claim 7}

The charging device for a multilevel mechanical parking facility according to any one of claims 1 to 6,

wherein a pole member is interposed between the power reception unit and the receptacle unit, both of which constitute the power reception device.

{Claim 8}

A multilevel mechanical parking facility including the charging device according to any one of claims 1 to 7.