[CLAIMS]

[Claim 1]

A travel path grinding device for grinding a travel path on which traveling wheels of a rail-type vehicle roll, the device comprising:

a grinder which grinds a surface layer of the travel path;

a frame on which the grinder is provided;

a device traveling wheel which is mounted on the frame, and rolls along the travel path on a top surface of a standard rail extending in an extending direction of the travel path; and

a grinder moving mechanism which relatively moves the grinder with respect to the frame and fixes the grinder at the position relatively moved to.

[Claim 2]

A travel path grinding device for grinding a travel path on which traveling wheels of a rail-type vehicle roll, the device comprising:

a grinder which grinds a surface layer of the travel path;

a frame on which the grinder is provided; and

a device traveling wheel which is mounted on the frame, and rolls along the travel path on a top surface of a standard rail extending in an extending direction of the travel path,

wherein in a state in which the device traveling wheel comes into contact with the top surface of the standard rail, at a position where a grinding tool mounted onto a spindle of the grinder is capable of coming into contact with a portion of the travel path to be ground, the grinder is provided in the frame.

[Claim 3]

The travel path grinding device according to claim 1 or 2, wherein the device traveling wheel has a wheel body in which a tread surface coming into contact with the top surface of the standard rail is formed on an outer periphery thereof, and a flange which is provided on the wheel body and is capable of coming into contact with the standard rail from a width direction of the travel path.

[Claim 4]

A travel path grinding device for grinding a travel path on which traveling wheels of a rail-type vehicle roll, the device comprising:

a grinder which grinds a surface layer of the travel path;

a frame on which the grinder is provided;

a device traveling wheel which is mounted on the frame, and rolls along the travel path on a top surface of a standard rail extending in an extending direction of the travel path; and

a grinding tool mounted onto a spindle of the grinder,

wherein the grinding tool has a flat lower surface which faces downward and faces the travel path, and a side surface which linearly extends upward from an edge of the lower surface and faces the extending direction of the travel path.

[Claim 5]

The travel path grinding device according to claim 1, wherein the grinder moving mechanism relatively moves the grinder in the vertical direction with respect to the frame.

[Claim 6]

A travel path grinding device for grinding a travel path on which traveling wheels of a rail-type vehicle roll, the device comprising:

a grinder which grinds a surface layer of the travel path;

a frame on which the grinder is provided; and

a device traveling wheel which is mounted on the frame, and rolls along the travel path on a top surface of a standard rail extending in an extending direction of the travel path,

wherein a spindle of the grinder on which a grinding tool is mounted extend in the vertical direction.

[Claim 7]

A travel path grinding device for grinding a travel path on which traveling wheels of a rail-type vehicle roll, the device comprising:

a grinder which grinds a surface layer of the travel path;

a frame on which the grinder is provided;

a device traveling wheel which is mounted on the frame, and rolls along the travel path on a top surface of a standard rail extending in an extending direction of the travel path; and

a device guide wheel which is mounted on the frame and faces a bottom surface of the standard rail to sandwich the standard rail from the vertical direction between the device traveling wheel and the device guide wheel.

[Claim 8]

The travel path grinding device according to any one of claims 1 to 7, further comprising:

a plurality of the grinders.

[Claim 9]

The travel path grinding device according to claim 8, wherein at least some grinders among the plurality of the grinders are arranged side by side in the width direction of the travel path and mounted onto the frame.

[Claim 10]

The travel path grinding device according to claim 8 or 9, wherein at least some grinders among the plurality of the grinders are arranged side by side in the extending direction of the travel path and mounted onto the frame.

[Claim 11]

The travel path grinding device according to any one of claims 1 to 10, further comprising:

a mounting structure which attachably and detachably mounts the grinder to the frame.

[Claim 12]

A travel path grinding device for grinding a travel path on which traveling wheels of a rail-type vehicle roll, the device comprising:

a grinder which grinds a surface layer of the travel path;

a frame on which the grinder is provided;

a device traveling wheel which is mounted on the frame, and rolls along the travel path on a top surface of a standard rail extending in an extending direction of the travel path; and

auxiliary traveling wheels which are attachably and detachably mounted onto the frame and roll on the top surface of the travel path.

[Claim 13]

A travel path grinding method for grinding the travel path, using the grinding device according to any one of claims 1 to 12, the method comprising:

causing the grinding device to travel along the travel path so that the device traveling wheel of the grinding device rolls on the top surface of the standard rail; and

grinding the surface layer of the travel path by driving the grinder during travel.

[Claim 14]

The method according to claim 13, wherein during travel, a guide rail with which a guide wheel of the rail-type vehicle come into contact to guide the direction of the rail-type vehicle is used as the standard rail.