[0005]

Embodiments of the present invention seek to provide a mounting tool for an elevator rope tension measurement device, the mounting tool being capable of preventing the rope tension measurement device from interfering with the rope disposed adjacently to the rope that is the measurement target.

SOLUTION TO PROBLEM

[0006]

A mounting tool for an elevator rope tension measurement device according to the present disclosure includes: a first holding body configured to hold a rope of an elevator; a second holding body configured to hold a rope tension measurement device that measures a tension of the rope; and a connecting body configured to connect the first holding body with the second holding body so as to dispose the rope tension measurement device at a position away from the rope, wherein the connecting body connects the first holding body with the second holding body such that, in a state where the first holding body holds one of a rope on a front side and a rope on a back side, the rope tension measurement device is disposed on a side opposite to the one of the rope on the front side and the rope on the back side with respect to the other of the rope on the front side and the rope on the back side.

ADVANTAGEOUS EFFECTS of INVENRION

[0007]

According to the present disclosure, the connecting body connects the first holding body with the second holding body so as to dispose the rope tension measurement device at a position away from the rope. Therefore, it is possible to prevent the rope tension measurement device from interfering with a rope disposed adjacently to the rope that is a measurement target.

BRIEF DESCRIPTION of DRAWINGS

[0008]

Embodiment 1.

Fig. 1 is a configuration diagram of an elevator system in which an elevator rope tension measurement system of an embodiment 1 is used.

[0011]

In the elevator system shown in Fig. 1, a hoistway 1 penetrates through respective floors of a building not shown in the drawing. A plurality of halls 2 are provided to respective floors of the building. Each of the plurality of halls 2 faces the hoistway 1.

[0012]

A traction machine 3 is provided at the lower portion of the hoistway 1. A pair of car-side return sheaves 4 are provided at the upper portion of the hoistway 1. A counterweight-side return sheave 5 is provided at the upper portion of the hoistway 1.

[0013]

A plurality of ropes 6 are wound onto the traction machine 3, the pair of car- side return sheaves 4, and the counterweight- side return sheave 5. Both end portions of the plurality of ropes 6 are fixed to the upper portion of the hoistway 1. In Fig. 1, only one rope 6 is shown.

[0014]

A pair of car-side suspension sheaves 7 are supported by the ropes 6 at a position closer to one end portion side of the ropes 6 than the pair of car- side return sheaves 4. In Fig. 1, only one car-side suspension sheave 7 is shown. A counterweight-side suspension sheave 8 is supported by the ropes 6 at a position closer to the other end portion side of the ropes 6 than the counterweight- side return sheave 5.

[0015]

system of the embodiment 1 to the embodiment 4 may be utilized as a vibration measurement device for a building facility in measuring vibrations of an escalator. For example, the rope tension measurement device 14 of the rope tension measurement system of the embodiment 1 to the embodiment 4 may be utilized as a vibration measurement device for a building facility in measuring vibrations of a moving walk. For example, the rope tension measurement device 14 of the rope tension measurement system of the embodiment 1 to the embodiment 4 may be utilized as a vibration measurement device for a building facility in measuring vibrations of an air conditioner.

Industrial Applicability

[0189]

As described above, the mounting tool for the elevator rope tension measurement device of the present disclosure can be utilized in an elevator system.

Reference Signs List

[0190]

1 hoistway, 2 hall, 3 traction machine, 4 car-side return sheaves, 5 counterweight-side return sheave, 6 rope, 7 car-side suspension sheave, 8 counterweight-side suspension sheave, 9 car, 10 counterweight, 11 control device, 12 monitoring device, 13 information center device, 14 rope tension measurement device, 15 mounting tool, 16 touch panel unit, 17 storage unit, 18 vibration waveform collection unit, 19 accuracy calculation unit, 20 judgement unit, 21 frequency calculation unit, 22 extraction unit, 23 adjustment amount calculation unit, 24 battery unit, 25 housing unit, 26 angle detection unit, 27 storage device, 28 first holding body, 28a holding part, 29 second holding body, 29a first holding part, 29b second holding part, 30 connecting body, 30a first mounting hole, 30b second mounting hole, 30c first divided part, 30d second

CLAIMS

[Claim 1]

A mounting tool for an elevator rope tension measurement device, the mounting tool comprising:

a first holding body configured to hold a rope of an elevator;

a second holding body configured to hold a rope tension measurement device that measures a tension of the rope; and

a connecting body configured to connect the first holding body with the second holding body so as to dispose the rope tension measurement device at a position away from the rope

wherein the connecting body connects the first holding body with the second holding body such that, in a state where the first holding body holds one of a rope on a front side and a rope on a back side, the rope tension measurement device is disposed on a side opposite to the one of the rope on the front side and the rope on the back side with respect to the other of the rope on the front side and the rope on the back side.

[Claim 2]

The mounting tool for an elevator rope tension measurement device according to claim 1, wherein the second holding body holds the rope tension measurement device such that a direction in which a vibration is detected by the rope tension measurement device matches a direction of a vibration of the rope.

[Claim 3]

The mounting tool for an elevator rope tension measurement device according to claim 1 or claim 2, wherein the first holding body holds the rope by a pair of holding parts arranged in a row in a vertical direction, and a product of a distance between

positions where the pair of holding parts hold the rope and a holding force of an upper holding part for holding the rope is greater than a rotational moment by a dead load of the rope tension measurement device.

[Claim 4]

The mounting tool for an elevator rope tension measurement device according to any one of claims 1 to 3, comprising a first fall preventing body having one side connected to the connecting body and having another side mounted, at a position higher than the rope tension measurement device, to an adjacent rope other than a rope on which a measurement is to be made or to a structural body of an elevator.

[Claim 5]

The mounting tool for an elevator rope tension measurement device according to any one of claims 1 to 4, comprising a second fall preventing body having one side connected to the connecting body and having another side mounted to the rope tension measurement device.

[Claim 6]

The mounting tool for an elevator rope tension measurement device according to any one of claims 1 to 5, wherein the first holding body is a clip having a curvature conforming to an outer diameter of the rope.

[Claim 7]

The mounting tool for an elevator rope tension measurement device according to claim 6, wherein the first holding body is the clip having a plurality of curvatures respectively conforming to outer diameters of a plurality of ropes.

[Claim 8]

A mounting tool for an elevator rope tension measurement device, the mounting tool comprising:

a first holding body configured to hold a rope of an elevator;

a second holding body configured to hold a rope tension measurement device that measures a tension of the rope; and

a connecting body configured to connect the first holding body with the second holding body so as to dispose the rope tension measurement device at a position away from the rope,

wherein the first holding body includes an uneven-shaped tip that fits to unevenness on an outer periphery of the rope.

[Claim 9]

The mounting tool for an elevator rope tension measurement device according to any one of claims 1 to 8, wherein the connecting body has a natural frequency higher than a frequency of the rope.

[Claim 10]

The mounting tool for an elevator rope tension measurement device according to any one of claims 1 to 9, wherein the connecting body has one side connected to one side of the second holding body, and is orthogonal to the second holding body.

[Claim 11]

The mounting tool for an elevator rope tension measurement device according to any one of claims 1 to 10, wherein the second holding body includes

a first holding part provided in a movable manner in a horizontal direction, and configured to hold the rope tension measurement device from a side, and

a second holding part configured to generate a load in the horizontal direction so as to apply a force of holding the rope tension measurement device to the first holding part.