In an aspect, the present disclosure refers to a handrail belt disinfection device is installed on a boarding/alighting board near an inlet section which serves as the entrance and exit for a handrail belt that circulates in conjunction with the movement of a passenger conveyor, and is equipped with a first light source which irradiates ultraviolet light toward the handrail belt, the irradiation time of the first light source being the time from when a user is detected at the boarding/alighting entrance to when the user grasps the handrail belt.

In an aspect, the present disclosure refers to a method for disinfecting a handrail belt, in which, when a user is detected by a user detection sensor installed at the boarding and alighting entrance, ultraviolet light is irradiated toward the handrail belt from a first light source installed on the boarding and alighting board near the inlet section which is the entrance and exit for the handrail belt, and ultraviolet light is irradiated onto the return portion of the back side of the handrail belt from a second light source installed inside the deck near the inlet section, and when the time has elapsed from when the user is detected by the user detection sensor to when the user grasps the handrail belt, the irradiation of ultraviolet light from the first light source and the second light source is stopped.

A handrail belt disinfection apparatus of examples has a first light source that is provided in a landing platform plate which is positioned near an inlet portion serving as an entry or exit point of a handrail belt which circulates and moves in conjunction with the running of a passenger conveyor, the first light source emitting ultraviolet light toward the handrail belt.

Further, a handrail belt disinfection method of another example includes emitting ultraviolet light toward a handrail belt from a first light source when a user is detected by a user detection sensor provided at a landing platform plate, the first light source being provided in a landing platform plate positioned near an inlet portion serving as an entry or exit point of the handrail belt; emitting ultraviolet light from a second light source toward a back side jaw portion, the second light source being provided in a deck which supports the handrail belt and is positioned near the inlet portion, the

back side jaw portion being formed by folding back a part of the handrail belt toward the deck; and stopping emission of the ultraviolet light from the first light source and the second light source after elapse of a time from when the user detection sensor detects the user to when the user grasps the handrail belt.

According to the handrail belt disinfection apparatus and handrail belt disinfection method having the above configuration, the handrail belt of a passenger conveyor can be disinfected efficiently while suppressing deterioration of the handrail belt.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an explanatory diagram showing the overall configuration of an escalator according to an embodiment;

FIG. 2 is a side view showing the installation positions of a first light source and a second light source in an escalator according to an embodiment;

FIG. 3 is a cross sectional view showing an installation position of a second light source in an escalator according to an embodiment;

FIG. 4 is a block diagram showing a control configuration of an escalator according to an embodiment; and

CLAIMS

1. A handrail belt disinfection device is installed on a boarding/alighting board near an inlet section which serves as the entrance and exit for a handrail belt that circulates in conjunction with the movement of a passenger conveyor, and is equipped with a first light source which irradiates ultraviolet light toward the handrail belt, the irradiation time of the first light source being the time from when a user is detected at the boarding/alighting entrance to when the user grasps the handrail belt.

2. The handrail belt disinfection device described in claim 1, further comprising a second light source installed inside the deck near the inlet portion and irradiating ultraviolet light onto the return portion on the back side of the handrail belt, wherein the irradiation time of the second light source is the time from when a user is detected at the boarding/alighting entrance to when the user grasps the handrail belt.

3. The handrail belt disinfection device according to claim 2 , wherein the second light source is installed at two locations inside the deck, on the inner deck and the outer deck.

4. A method for disinfecting a handrail belt, in which, when a user is detected by a user detection sensor installed at the boarding and alighting entrance, ultraviolet light is irradiated toward the handrail belt from a first light source installed on the boarding and alighting board near the inlet section which is the entrance and exit for the handrail belt, and ultraviolet light is irradiated onto the return portion of the back side of the handrail belt from a second light source installed inside the deck near the inlet section, and when the time has elapsed from when the user is detected by the user detection sensor to when the user grasps the handrail belt, the irradiation of ultraviolet light from the first light source and the second light source is stopped.