SUMMARY OF THE INVENTION

[0005] However, the conventional art has not addressed problems that arise in a case where the normal cab undocking operation cannot be performed. Therefore, a problem to be solved by embodiments of the present disclosure is, for example, to provide a passenger boarding bridge that is capable of retreating the cab from the aircraft more properly than the conventional art even in a case where the normal cab undocking operation cannot be performed.

[0006] Disclosed herein is a passenger boarding bridge that includes: a rotunda connected to a terminal building; a tunnel unit whose proximal end is connected to the rotunda; a cab provided at a distal end of the tunnel unit; and a travel device supporting the tunnel unit. The cab includes: a first floor configured to serve as a walkway that communicates with the tunnel unit; a second floor provided on the first floor; and a moving mechanism configured to move the second floor to a stop position at which the second floor is close to, or in contact with, an aircraft. The moving mechanism includes: a driver configured to apply driving force to the second floor; and a control device configured to control driving of the driver. The control device controls the driver to retreat the second floor stopped at the stop position to a retreat position away from the aircraft either in a case where a travel wheel of the travel device is unable to rotate or in a case where rotation of the travel wheel of the travel device for undocking the cab from the aircraft is prohibited.

[0007] According to an aspect of the present disclosure, there is provided a passenger boarding bridge that includes: a rotunda connected to a terminal building; a tunnel unit whose proximal end is connected to the rotunda; a cab provided at a distal end of the tunnel unit; a travel device supporting the tunnel unit; and a first control device configured to control an operation of the travel device. The cab includes: a first floor configured to serve as a walkway that communicates with the tunnel unit; a second floor provided on the first floor; and a moving mechanism configured to move the second floor to a stop position at which the second floor is close to, or in contact with, an aircraft. The moving mechanism includes: a driver configured to apply driving force to the second floor; a power supplying device; and a second control device configured to control driving of the driver. Wiring used for the second control device is provided independently of wiring used for the first control device. The second control device controls the driver to retreat the second floor stopped at the stop position to a retreat position away from the aircraft, and in a case where electric power supply from a commercial power source to the passenger boarding bridge is stopped, the driver is supplied with electric power from the power supplying device.

[0008] Disclosed herein is a passenger boarding bridge that includes: a rotunda connected to a terminal building; a tunnel unit whose proximal end is connected to the rotunda; and a cab provided at a distal end of the tunnel unit. The cab includes: a first floor configured to serve as a walkway that communicates with the tunnel unit; a second floor provided on the first floor; and a moving mechanism configured to move the second floor between a stop position at which the second floor is close to, or in contact with, an aircraft and a retreat position at which the second floor is located away from the aircraft. The second floor is fixed to the retreat position and/or the stop position by a stopper member of the moving mechanism.

[0009] The passenger boarding bridge according to embodiments of the present disclosure has an advantage of being able to retreat the cab from the aircraft more properly than the conventional art even in a case where the normal cab undocking operation cannot be performed.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 shows one example of a passenger boarding bridge of Embodiment 1.

[0011] FIG. 2 shows one example of a cab of the passenger boarding bridge of Embodiment 1.

[0012] FIG. 3 shows one example of the cab of the passenger boarding bridge of Embodiment 1.

[0013] FIG. 4 shows one example of the cab of the passenger boarding bridge of Embodiment 1.

[0014] FIG. 5A is a sectional view of the cab of FIG. 2 taken along line A-A of FIG. 2 as viewed in the direction of arrows of line A-A.

[0015] FIG. 5B is a sectional view of the cab of FIG. 2 taken along line B-B of FIG. 2 as viewed in the direction of arrows of line B-B, the view showing a movable floor that has been retreated backward from the state of the cab shown in FIG. 5A.

[0016] FIG. 6 is a flowchart showing one example of operations for retreating the cab from the fuselage of an aircraft and fixing the cab to a retreat position in a case where a normal cab undocking operation cannot be performed.

What is claimed is:

1. A passenger boarding bridge comprising:

a rotunda connected to a terminal building;

a tunnel unit whose proximal end is connected to the rotunda;

a cab provided at a distal end of the tunnel unit;

a travel device supporting the tunnel unit; and

a first control device configured to control an operation of the travel device, wherein

the cab includes:

a first floor configured to serve as a walkway that communicates with the tunnel unit;

a second floor provided on the first floor; and

a moving mechanism configured to move the second floor to a stop position at which the second floor is close to, or in contact with, an aircraft,

the moving mechanism includes:

a driver configured to apply driving force to the second floor;

a power supplying device; and

a second control device configured to control driving of the driver,

wiring used for the second control device is provided independently of wiring used for the first control device,

the second control device controls the driver to retreat the second floor stopped at the stop position to a retreat position away from the aircraft, and

in a case where electric power supply from a commercial power source to the passenger boarding bridge is stopped, the driver is supplied with electric power from the power supplying device.

2. The passenger boarding bridge according to claim 1, wherein

the second control device controls the driver to retreat the second floor stopped at the stop position to the retreat position away from the aircraft in a case where rotation of a travel wheel of the travel device for undocking the cab from the aircraft is prohibited.

3. The passenger boarding bridge according to claim 1 or 2, wherein

the second floor is fixed to the retreat position by a brake of the driver.