Summary of Invention

Technical Problem

[0007] However, the above conventional art examples do not sufficiently give consideration to movement control of the movable floor of the cab at the time of opening/closing the door of the entrance of the aircraft.

[0008] ~~One aspect~~Embodiments of the present invention ~~has been made in view of the above conventional problems, and an object of the present invention is to~~ provide a passenger boarding bridge capable of properly controlling the movement of the movable floor of the cab at the time of opening/closing the door of an entrance of an aircraft.

Solution to Problem

[0009] ~~A passenger boarding bridge according to the one aspect of the present invention is a passenger boarding bridge including a cab provided at a distal end of a tunnel unit, the cab forming a walkway when attached to an entrance of an aircraft. The cab includes: a movable floor used for connection to a door sill of the entrance of the aircraft and configured to be movable upward and downward; and a door opening/closing detector configured to detect opening and closing of a door of the entrance of the aircraft. The walkway of the cab is positioned below the entrance of the aircraft at a time of attaching the cab to the entrance of the aircraft, and the movable floor is prohibited from moving upward when the door is not open.~~

According to an aspect of the present invention, there is provided a passenger boarding bridge including a cab provided at a distal end of a tunnel unit, the cab forming a walkway when attached to an entrance of an aircraft, the cab comprising: a movable floor used for connection to a door sill of the entrance of the aircraft and configured to be movable upward and downward; a door opening/closing detector configured to detect opening and closing of a door of the entrance of the aircraft; a motive power generator configured to generate motive power used for moving the movable floor; and a controller configured to prohibit the motive power generator from operating if the door opening/closing detector does not detect that the door is open, wherein the walkway of the cab is positioned below the entrance of the aircraft at a time of attaching the cab to the entrance of the aircraft, and the movable floor is prohibited from moving upward when the door is not open.

[0010] The above ~~object~~ aspect, other ~~objects~~ aspects, features, and advantages of the ~~one aspect of the~~ present invention will be made clear by the following detailed description of one preferred embodiment with reference to the accompanying drawings.

Advantageous Effects of Invention

[0011] ~~The one aspect~~ Embodiments of the present invention ~~makes~~ make it possible to properly control the movement of the movable floor of the cab of the passenger boarding bridge at the time of opening/closing the door of the entrance of the aircraft.

Brief Description of Drawings

[0012] Fig. 1 shows one example of a passenger boarding bridge according to one embodiment of the present invention.

Fig. 2 shows one example of a cab of the passenger boarding bridge according to the embodiment of the present invention.

CLAIMS

1. A passenger boarding bridge including a cab provided at a distal end of a tunnel unit, the cab forming a walkway when attached to an entrance of an aircraft, the cab comprising:

a movable floor used for connection to a door sill of the entrance of the aircraft and configured to be movable upward and downward;

a door opening/closing detector configured to detect opening and closing of a door of the entrance of the aircraft;

a motive power generator configured to generate motive power used for moving the movable floor; and

a controller configured to prohibit the motive power generator from operating if the door opening/closing detector does not detect that the door is open,

wherein

the walkway of the cab is positioned below the entrance of the aircraft at a time of attaching the cab to the entrance of the aircraft, and the movable floor is prohibited from moving upward when the door is not open.

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

the controller controls operation of the motive power generator to move the movable floor upward automatically when the door opening/closing detector detects that the door is open.

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

a door locking member configured to be movable between an adjacent position adjacent to the entrance of the aircraft and a distant position distant from the entrance of the aircraft than the adjacent position at the time of attaching the cab to the entrance of the aircraft; and

a door locking member position detector configured to detect movement of the door locking member to the adjacent position and movement of the door locking member to the distant position, wherein

the controller allows the motive power generator to operate when the door opening/closing detector detects that the door is open and the door locking member position detector detects that the door locking member has moved to the adjacent position.

4. The passenger boarding bridge according to claim 3, wherein

the controller controls operation of the motive power generator to move the movable floor upward automatically when the door opening/closing detector detects that the door is open and the door locking member position detector detects that the door locking member has moved to the adjacent position.

5. The passenger boarding bridge according to claim 3 or 4, wherein

the door locking member is used as a member serving to block movement of the door at the adjacent position, the door being configured as an outward opening door.

6. The passenger boarding bridge according to any one of claims 3 to 5, wherein

the door locking member is used as a fence on the walkway of the cab at the adjacent position.

7. The passenger boarding bridge according to any one of claims 3 to 6, wherein the door locking member position detector includes:

a first detector configured to detect movement of the door locking member to the adjacent position; and

a second detector configured to detect movement of the door locking member to the distant position.

8. The passenger boarding bridge according to any one of claims 3 to 7, wherein

at a time of detaching the cab from the entrance of the aircraft, the controller controls operation of the motive power generator to move the movable floor downward automatically when the door locking member position detector detects that the door locking member has moved from the adjacent position to the distant position.

CLAIMS

1. A passenger boarding bridge including a cab provided at a distal end of a tunnel unit, the cab forming a walkway when attached to an entrance of an aircraft, the cab comprising:

a movable floor used for connection to a door sill of the entrance of the aircraft and configured to be movable upward and downward; and

a door opening/closing detector configured to detect opening and closing of a door of the entrance of the aircraft, wherein

the walkway of the cab is positioned below the entrance of the aircraft at a time of attaching the cab to the entrance of the aircraft, and the movable floor is prohibited from moving upward when the door is not open.

2. The passenger boarding bridge according to claim 1, comprising:

a motive power generator configured to generate motive power used for moving the movable floor; and

a controller configured to prohibit the motive power generator from operating if the door opening/closing detector does not detect that the door is open.

3. The passenger boarding bridge according to claim 2 wherein

the controller controls operation of the motive power generator to move the movable floor upward automatically when the door opening/closing detector detects that the door is open.

4. The passenger boarding bridge according to claim 2 or 3, comprising:

a door locking member configured to be movable between an adjacent position adjacent to the entrance of the aircraft and a distant position distant from the entrance of the aircraft than the adjacent position at the time of attaching the cab to the entrance of the aircraft; and

a door locking member position detector configured to detect movement of the door locking member to the adjacent position and movement of the door locking member to the distant position, wherein

the controller allows the motive power generator to operate when the door opening/closing detector detects that the door is open and the door locking member position detector detects that the door locking member has moved to the adjacent position.

5. The passenger boarding bridge according to claim 4, wherein

the controller controls operation of the motive power generator to move the movable floor upward automatically when the door opening/closing detector detects that the door is open and the door locking member position detector detects that the door locking member has moved to the adjacent position.

6. The passenger boarding bridge according to claim 4 or 5, wherein

the door locking member is used as a member serving to block movement of the door at the adjacent position, the door being configured as an outward opening door.

7. The passenger boarding bridge according to any one of claims 4 to 6, wherein

the door locking member is used as a fence on the walkway of the cab at the adjacent position.

8. The passenger boarding bridge according to any one of claims 4 to 7, wherein

the door locking member position detector includes:

a first detector configured to detect movement of the door locking member to the adjacent position; and

a second detector configured to detect movement of the door locking member to the distant position.

9. The passenger boarding bridge according to any one of claims 4 to 8, wherein

at a time of detaching the cab from the entrance of the aircraft, the controller controls operation of the motive power generator to move the movable floor downward automatically when the door locking member position detector detects that the door locking member has moved from the adjacent position to the distant position.