

CLAIMS

1. A container transport facility comprising: a first apparatus including a pickup portion at which a container that accommodates an article is picked up;

a second apparatus including a dropoff portion at which the container is dropped off;

a transport apparatus that transports the container from the first apparatus to the second apparatus along a transport path; and

a supply apparatus that supplies a filling gas to be filled into the inside of the container to the inside of the container,

wherein:

the container includes a flow hole forming portion in which a flow hole through which gas can flow between the outside and the inside of the container is formed,

the supply apparatus includes a connecting portion that has a flow path through which gas can flow and a filling gas supply source that allows the filling gas to flow through the flow path, and

the connecting portion is configured to be switchable between a non-connected state in which the connecting portion is retracted to the outside of a moving region of the container that moves along the transport path and a connected state in which the connecting portion enters the inside of the moving region and is connected to the flow hole forming portion.
2. The container transport facility according to claim 1, wherein the filling gas supply source is configured to be switchable between a supplying state in which the filling gas supply source allows the filling gas to flow through the flow path and a supply-stopped state in which the filling gas supply source does not allow the filling gas to flow through the flow path,

further comprising a supply controller that controls switching of the connecting portion between the connected state and the non-connected state and switching of the filling gas supply source between the supplying state and the supply-stopped state, and a detector that detects a state of the filling gas within the container are provided, and

wherein the supply controller is configured to determine whether the state of the filling gas within the container that has been detected by the detector is a supply-required state in which supply of the filling gas to the container is required or a supply-non-required state in which supply of the filling gas to the container is not required, switch the connecting portion to the connected state and the filling gas supply source to the supplying state if the state of the filling gas is determined as being the supply-required state, and switch the filling gas supply source to the supply-stopped state if the state of the filling gas is determined as being the supply-non-required state.

3. The container transport facility according to claim 2, wherein:

the transport apparatus includes a base portion whose position in a direction along the transport path is fixed, a driving portion that is supported by the base portion with its position relative to the base portion in the direction along the transport path being fixed, a contact portion that is driven by the driving portion while being in contact with the container and transmits a propulsive force in the direction along the transport path to the container, and a transport controller that controls the driving portion,

the contact portion is either one of a rotating member that is rotatably supported by the base portion and that is rotated by the driving portion and a support member that is supported by the base portion in such a manner as to be movable along the transport path and that is moved by the driving portion, and

the supply controller switches the connecting portion to the non-connected state and the filling gas supply source to the supply-stopped state if the driving portion is driven by the transport controller.

4. The container transport facility according to claim 1, further comprising:

a connecting portion moving mechanism that moves the connecting portion along the transport path in synchronization with movement, in a direction along the transport path, of the container that is transported by the transport apparatus.

5. The container transport facility according to claim 1, wherein a plurality of said connecting portions are provided distributed along the transport path.

6. The container transport facility according to claim 1,

wherein the transport apparatus includes a base portion whose position in a direction along the transport path is fixed, a first support member fixed to the base portion, a second support member supporting the connecting portion of the supply apparatus, and a lifting mechanism provided between the first support member and the second support member, and

wherein by lowering the second support member by the lifting mechanism, a leading end of the connecting portion is located below the moving region and the connecting portion is switched to the non-connected state, and by lifting the second support member by the lifting mechanism, the leading end of the connecting portion enters the flow hole and the connecting portion is switched to the connected state.

7. The container transport facility according to claim 1,

wherein the transport apparatus includes a first overhead transport vehicle receiving/delivering the container from/to the first apparatus, a second overhead transport vehicle receiving/delivering the container from/to the second apparatus, and a conveyor transporting the container between the first overhead transport vehicle and the second overhead transport vehicle, and

wherein the connecting portion is provided in an installation region of the conveyor among the first overhead transport vehicle, the second overhead transport vehicle and the conveyor while being switchable between the non-connected state and the connected state.