CLAIMS

1. An article transport facility for transporting a target article to be transported in a transportation direction, the facility comprising:

a conveyor device configured to transport the target article; and

a support conveying device adjacent to the conveyor device in the transportation direction, the support conveying device being configured to transport the target article while supporting the target article with a higher degree of flatness than the conveyor device,

wherein the conveyor device includes a first transporter, a second transporter, and a middle guide each extending in the transportation direction and spaced apart from one another in a width direction being a direction perpendicular to the transportation direction in a plan view,

the width direction includes a first width direction in which the first transporter is located from the second transporter, and a second width direction opposite to the first width direction,

the first transporter transports the target article in the transportation direction while supporting, from below, a bottom first portion of a bottom surface of the target article, and the bottom first portion is a portion of the bottom surface in the width direction,

the second transporter transports the target article in the transportation direction while supporting, from below, a bottom second portion of the bottom surface of the target article, and the bottom second portion is a portion of the bottom surface located in the second width direction from the bottom first portion,

the middle guide has a full length in the transportation direction shorter than a full length of each of the first transporter and the second transporter in the transportation direction,

the middle guide is located between the first transporter and the second transporter in the width direction in an area of the conveyor device extending in the transportation direction including a joint connecting to the support conveying device to guide a bottom middle portion of the bottom surface, and the bottom middle portion is a portion of the bottom surface between

the bottom first portion and the bottom second portion in the width direction,

the first transporter has a first support surface to support the bottom first portion, the second transporter has a second support surface to support the bottom second portion, and the first support surface and the second support surface are located in a same reference plane, and

the middle guide has a middle guide surface to guide the bottom middle portion, and the middle guide surface is located in the reference plane at the joint and inclined further downward from the reference plane at a greater distance in the transportation direction from the joint, and

wherein the middle guide surface has a far end being an end farthest from the joint in the transportation direction, and the far end is located below the bottom middle portion of the target article when the target article supported by the first transporter and the second transporter has the bottom middle portion bending downward relative to the bottom first portion and the bottom second portion.

2. An article transport facility for transporting a target article to be transported in a transportation direction, the facility comprising:

a conveyor device configured to transport the target article; and

a support conveying device adjacent to the conveyor device in the transportation direction, the support conveying device being configured to transport the target article while supporting the target article with a higher degree of flatness than the conveyor device,

wherein the conveyor device includes a first transporter, a second transporter, and a middle guide each extending in the transportation direction and spaced apart from one another in a width direction being a direction perpendicular to the transportation direction in a plan view,

the width direction includes a first width direction in which the first transporter is located from the second transporter, and a second width direction opposite to the first width

direction,

the first transporter transports the target article in the transportation direction while supporting, from below, a bottom first portion of a bottom surface of the target article, and the bottom first portion is a portion of the bottom surface in the width direction,

the second transporter transports the target article in the transportation direction while supporting, from below, a bottom second portion of the bottom surface of the target article, and the bottom second portion is a portion of the bottom surface located in the second width direction from the bottom first portion,

the middle guide has a full length in the transportation direction shorter than a full length of each of the first transporter and the second transporter in the transportation direction,

the middle guide is located between the first transporter and the second transporter in the width direction in an area of the conveyor device extending in the transportation direction including a joint connecting to the support conveying device to guide a bottom middle portion of the bottom surface, and the bottom middle portion is a portion of the bottom surface between the bottom first portion and the bottom second portion in the width direction,

the first transporter has a first support surface to support the bottom first portion, the second transporter has a second support surface to support the bottom second portion, and the first support surface and the second support surface are located in a same reference plane, and

the middle guide has a middle guide surface to guide the bottom middle portion, and the middle guide surface is located in the reference plane at the joint and inclined further downward from the reference plane at a greater distance in the transportation direction from the joint, and

wherein the conveyor device includes a joint area in the transportation direction in which the middle guide is located, and a far area located farther from the joint than the joint area, and

the conveyor device is divisible into a joint unit located in the joint area in which the first transporter, the second transporter, and the middle guide are connected to one another, and a far unit located in the far area in which the first transporter and the second transporter are connected to each other.

3. The article transport facility according to claim 1 or claim 2, wherein

the middle guide transports the target article in the transportation direction while supporting the bottom middle portion from below.

4. The article transport facility according to claim 3, wherein

each of the first transporter, the second transporter, and the middle guide includes a pair of rotators spaced apart from each other in the transportation direction and rotatable about rotation axes extending in the width direction, and an endless body wound around the pair of rotators and extending in the transportation direction,

the conveyor device includes a driving device configured to drive the first transporter, the second transporter, and the middle guide, and

the driving device includes a connecting shaft coaxially connecting the rotators of the first transporter, the second transporter, and the middle guide located at ends nearer the joint to one another, and a driver configured to drive the connecting shaft to rotate.

5. The article transport facility according to any one of claims 1 to 4, wherein

the support conveying device is a roller conveyor including a plurality of rollers extending throughout an area of the bottom surface of the target article in the width direction, and the plurality of rollers are rotatable about rotation axes extending in the width direction and are arranged adjacent to one another in the transportation direction.

6. The article transport facility according to any one of claims 1 to 5, wherein the middle guide is a chain conveyor, a belt conveyor, or a roller conveyor.

7. The article transport facility according to any one of claims 1 to 6, wherein each of the first transporter and the second transporter is a chain conveyor or a belt conveyor.