CLAIM(S)

1. A transfer device of granular substances, comprising:

an inclined surface on which granular substances flow; and

a buffer portion that projects from the inclined surface and changes a flow direction of the granular substances by a contact with the granular substances to reduce a flow speed of the granular substances.

2. The transfer device of the granular substances according to claim 1, wherein

the buffer portion is provided by a plate member, and

a planar direction of the plate member intersects with an inclination direction of the inclined surface.

3. The transfer device of the granular substances according to claim 2, wherein

the plate member is provided by a plurality of plate members along the inclination direction of the inclined surface, and

the planar directions of vertically adjacent ones of the plate members in the inclination direction are inclined in opposite directions.

4. A transfer device of granular substances, comprising:

an inclined surface on which granular substances flow; and

a residence portion that projects from the inclined surface, temporarily accumulates the granular substances flowing on the inclined surface, and changes a flow direction of the granular substances flowing on the inclined surface by a contact between the accumulated granular substances and the granular substances flowing on the inclined surface to reduce a flow speed of the granular substances.

5. The transfer device of the granular substances according to claim 4, wherein

the residence portion comprises a pair of plate members that project facing each other in a width direction intersecting with a flow direction of the granular substances on the inclined surface, wherein

a distance between lower ends of the pair of plate members is narrower than a distance between upper ends of the pair of plate members and is sufficient for the granular substances to pass through.

6. The transfer device of the granular substances according to claim 5, wherein

the residence portion comprises: a wall plate that flows the granular substances flowing on the inclined surface downward while preventing the granular substances from overflowing the inclined surface; and a plate member that faces the wall plate in the width direction of the inclined surface, wherein

a lower end of the plate member is close to the wall plate and is distanced from the wall plate to allow the granular substances to pass through.

7. The transfer device of the granular substances according to any one of claims 1 to 6, wherein

the granular substances are hydrogenated petroleum resin pellets.

CLAIM(S)

1. A transfer device of hydrogenated petroleum resin pellets, comprising:

an inclined surface adapted to allow the hydrogenated petroleum resin pellets to flow; and

a plurality of buffer plates that project from the inclined surface such that planar directions of the plurality of buffer plates intersect with an inclination direction of the inclined surface,

wherein the buffer plates are adapted to change a flow direction of the hydrogenated petroleum resin pellets by contacting the hydrogenated petroleum resin pellets to reduce a flow speed of the hydrogenated petroleum resin pellets,

the inclined surface is provided to be inclined at an inclination angle of from 44 degrees to 75 degrees relative to the horizontal surface,

vertically adjacent buffer plates of the plurality of buffer plates are provided such that planar directions of the vertically adjacent buffer plates of the plurality of buffer plates are inclined in opposite directions,

slip surfaces of the buffer plates, on which the hydrogenated petroleum resin pellets are configured to slip, are inclined at an inclination angle of from 40 degrees to 52 degrees relative to a plane perpendicular to a longitudinal direction of the inclined surface, and

the plurality of buffer plates are adapted to reduce the flow speed of the hydrogenated petroleum resin pellets to be slower than 1.98 m/second.

2. A transfer device of hydrogenated petroleum resin pellets, comprising:

an inclined surface adapted to allow the hydrogenated petroleum resin pellets to flow; and

a residence portion that projects from the inclined surface,

wherein the residence portion is adapted to temporarily accumulate the hydrogenated petroleum resin pellets flowing on the inclined surface, and wherein the residence portion is adapted to change a flow direction of the hydrogenated petroleum resin pellets flowing on the inclined surface by a contact between the accumulated

hydrogenated petroleum resin pellets and the hydrogenated petroleum resin pellets flowing on the inclined surface to reduce a flow speed of the hydrogenated petroleum resin pellets,

the inclined surface is provided to be inclined at an inclination angle of from 44 degrees to 75 degrees relative to the horizontal surface,

the residence portion comprises a pair of plate member facing each other in a width direction intersecting with a flow direction of the hydrogenated petroleum resin pellets on the inclined surface,

the pair of plate members project at a distance between lower ends of the pair of plate members narrower than a distance between upper ends of the pair of plate members and sufficient for the hydrogenated petroleum resin pellets to pass through, and

the residence portion is adapted to reduce the flow speed of the hydrogenated petroleum resin pellets to be slower than 1.98 m/second.

3. The transfer device of claim 2, wherein

the residence portion comprises a pair of plate members that project facing each other in a width direction intersecting with a flow direction of the hydrogenated petroleum resin pellets on the inclined surface, wherein

a distance between lower ends of the pair of plate members is narrower than a distance between upper ends of the pair of plate members and is sufficient for the hydrogenated petroleum resin pellets to pass through.

4. The transfer device of claim 3, wherein

the residence portion comprises: a wall plate adapted to direct the hydrogenated petroleum resin pellets flowing on the inclined surface downward while preventing the hydrogenated petroleum resin pellets from overflowing the inclined surface; and a plate member that faces the wall plate in the width direction of the inclined surface, wherein

a lower end of the plate member is close to the wall plate and is distanced from the wall plate to allow the hydrogenated petroleum resin pellets to pass through.

5. A process for transferring hydrogenated petroleum resin pellets, the process comprising:

feeding the hydrogenated petroleum resin pellets to the transfer device of claim 1;

making the hydrogenated petroleum resin pellets flow along the inclined surface; and

changing a flow direction of the hydrogenated petroleum resin pellets by contacting the hydrogenated petroleum resin pellets with the buffer plates, thereby reducing a flow speed of the hydrogenated petroleum resin pellets.

6. A process for transferring hydrogenated petroleum resin pellets, the process comprising:

feeding the hydrogenated petroleum resin pellets to the transfer device of claim 2;

making the hydrogenated petroleum resin pellets flow along the inclined surface;

temporarily accumulating the hydrogenated petroleum resin pellets in the residence portion; and

changing a flow direction of the hydrogenated petroleum resin pellets by a contact between the accumulated hydrogenated petroleum resin pellets and the hydrogenated petroleum resin pellets flowing on the inclined surface to reduce a flow speed of the hydrogenated petroleum resin pellets.

7. The process of claim 6, wherein

the residence portion comprises a pair of plate members that project facing each other in a width direction intersecting with a flow direction of the hydrogenated petroleum resin pellets on the inclined surface, wherein

a distance between lower ends of the pair of plate members is narrower than a distance between upper ends of the pair of plate members and is sufficient for the hydrogenated petroleum resin pellets to pass through.

8. The process of claim 7, wherein

the residence portion comprises: a wall plate that directs the hydrogenated petroleum resin pellets flowing on the inclined surface downward while preventing the hydrogenated petroleum resin pellets from overflowing the inclined surface; and a plate member that faces the wall plate in the width direction of the inclined surface, wherein

a lower end of the plate member is close to the wall plate and is distanced from the wall plate to allow the hydrogenated petroleum resin pellets to pass through.

9. A transfer device of hydrogenated petroleum resin pellets, comprising:

an inclined surface adapted to allow the hydrogenated petroleum resin pellets to flow; and

a residence portion that projects from the inclined surface,

wherein the residence portion is adapted to temporarily accumulate the hydrogenated petroleum resin pellets flowing on the inclined surface, and wherein the residence portion is adapted to change a flow direction of the hydrogenated petroleum resin pellets flowing on the inclined surface by a contact between the accumulated hydrogenated petroleum resin pellets and the hydrogenated petroleum resin pellets flowing on the inclined surface to reduce a flow speed of the hydrogenated petroleum resin pellets,

the inclined surface is provided to be inclined at an inclination angle of from 44 degrees to 75 degrees relative to the horizontal surface,

the residence portion comprises: a wall plate adapted to flow the hydrogenated petroleum resin pellets flowing on the inclined surface downward while preventing the hydrogenated petroleum resin pellets from overflowing the inclined surface; and a plate member that face the wall plate in a width direction of the inclined surface, wherein a lower end of the plate member is close to the wall plate and is distanced from the wall plate to allow the hydrogenated petroleum resin pellets to pass through, and

the residence portion is adapted to reduce the flow speed of the hydrogenated petroleum resin pellets to be slower than 1.98 m/second.