CLAIMS

Claim 1. A toner container comprising:

a toner accommodating body configured to accommodate toner;

a nozzle in fluid communication with the toner accommodating body, the nozzle including an opening configured to form a part of a discharge passageway through which toner may be discharged to outside of the toner container;

a shutter configured to open and close the opening of the nozzle, the shutter being rotatable about a rotational axis between a first position in which the shutter closes the opening of the nozzle and a second position in which an opening of the shutter aligns with the opening of the nozzle to form the discharge passageway; and

a projection positioned at an end portion of the toner container, the projection including a first surface, a second surface, and a third surface,

wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle, the nozzle is above the projection, and the projection is at a bottommost side of the toner container, (i) the opening of the nozzle is positioned such that toner may be discharged from a lateral side of the toner container that is above the bottommost side, (ii) the first surface faces downward, (iii) the second surface faces downward, and (iv) the third surface faces upward.

Claim 2. A toner container according to claim 1, wherein at least a part of the first surface is offset, in a circumferential direction about the rotational axis, from an end of the second surface on the same side as the part of the first surface in the circumferential direction.

Claim 3. A toner container according to claim 1, wherein the second surface and the third surface extend in directions that intersect each other.

Claim 4. A toner container according to claim 1, wherein the second surface and the third

surface extend away from each other in a circumferential direction about the rotational axis.

Claim 5. A toner container comprising:

a toner accommodating body configured to accommodate toner;

a nozzle in fluid communication with the toner accommodating body, the nozzle including an opening configured to form at least a part of a discharge passageway through which toner may be discharged to outside of the toner container; and

a projection positioned at an end portion of the toner container, the projection including a first surface, a second surface, a third surface, and an inner peripheral surface facing an axis of the toner container,

wherein the toner accommodating body, the nozzle, and the projection are aligned with respect to the axis of the toner container,

wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle, the nozzle is above the projection, and the projection is at a bottommost side of the toner container, (i) the opening is positioned such that toner may be discharged from a lateral side of the toner container that is above the bottommost side, (ii) the first surface faces downward, (iii) the second surface faces downward, and (iv) the third surface faces upward,

wherein, in a direction perpendicular to the axis, the first surface, the second surface, and the third surface are positioned outside the inner peripheral surface of the projection and inside the opening of the nozzle,

wherein a distance, measured along a line that is perpendicular to the axis, from the axis to the first surface, is less than a distance, measured along a line that is perpendicular to the axis, from the axis to a part of the second surface that is closest to the axis,

wherein a distance, measured along a line that is perpendicular to the axis, from the inner peripheral surface to the third surface is 30% or less than a distance, measured along a line that is perpendicular to the axis, from the inner peripheral surface to the opening of the nozzle, and

wherein a distance, measured along a line that is perpendicular to the axis, from the inner peripheral surface to the second surface is 30% or less than the distance, measured along a line that is perpendicular to the axis, from the inner peripheral surface to the opening of the nozzle.

Claim 6. A toner container according to claim 5, wherein at least a part of the first surface is offset, in a circumferential direction about the axis, from an end of the second surface on the same side as the part of the first surface in the circumferential direction.

Claim 7. A toner container according to claim 5, wherein the second surface and the third surface extend in directions that intersect each other.

Claim 8. A toner container according to claim 5, wherein the second surface and the third surface extend away from each other in a circumferential direction about the axis.

Claim 9. A toner container according to claim 5, wherein a distance, measured along a line that is perpendicular to the axis, from the axis to a part of the second surface is equal to a distance, measured along a line that is perpendicular to the axis, from the axis to a part of the third surface.

Claim 10. A toner container according to claim 5, wherein a distance, measured along a line that is perpendicular to the axis, from the inner peripheral surface to the first surface is 30% or less than a distance, measured along a line that is perpendicular to the axis, from the inner peripheral surface to the opening of the nozzle.

Claim 11. A toner container according to claim 5, wherein at least a part of the third surface is above an uppermost part of the second surface,

Claim 12. A toner container comprising:

a toner accommodating body configured to accommodate toner;

a nozzle in fluid communication with the toner accommodating body, the nozzle including an opening configured to form at least a part of a discharge passageway through which toner may be discharged to outside of the toner container;

a shutter configured to open and close the opening of the nozzle, the shutter being rotatable

about a rotational axis and relative to the nozzle in a first rotational direction and a second rotational direction that is opposite to the first rotational direction; and

a projection positioned at an end portion of the toner container in a direction of the rotational axis, the projection including an inner peripheral surface facing towards the rotational axis,

wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle, the nozzle is above the projection, and the projection is at a bottommost side of the toner container, (i) the opening of the nozzle is positioned such that toner may be discharged from a lateral side of the container that is above the bottommost side, (ii) the projection includes an upward facing surface that is positioned outside the inner peripheral surface of the projection and inside the opening of the nozzle in a direction perpendicular to the rotational axis, and (iii) the upward facing surface extends such that a distance in the direction of the rotational axis from the upward facing surface to the toner accommodating body decreases along the upward facing surface in the second rotational direction.

Claim 13. A toner container according to claim 12, wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle and the nozzle is above the projection, and the projection is at the bottommost side of the toner container, the projection has a downstream side end surface that (i) extends upward in the direction of the rotational axis from a downstream end of the upward facing surface in the second rotational direction and (ii) faces a downstream side in the first rotational direction.

Claim 14. A toner container according to claim 12, wherein, as the viewed in the direction of the rotational axis, the upward facing surface is provided closer to the inner peripheral surface in the direction perpendicular to the rotational axis than the upward facing surface is to the opening in the direction perpendicular to the rotational axis.

Claim 15. A toner container according to claim 12, wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle, the nozzle is above the

projection, and the projection is at the bottommost side of the toner container, the projection has a downward facing surface facing downward and extending such that a distance in the direction of the rotational axis from the downward facing surface to the toner accommodating body decreases along the downward facing surface in the first rotational direction, with at least a part of the upward facing surface being above an uppermost part of the downward facing surface.

Claim 16. A toner container according to claim 15, wherein, as viewed in the direction of the rotational axis, the downward facing surface overlaps the upward facing surface.

Claim 17. A toner container according to claim 15, wherein the projection has a connecting portion connecting a downstream end of the downward facing surface in the first rotational direction to an upstream end of the upward facing surface in the second rotational direction.

Claim 18. A toner container according to claim 12, further comprising a seal configured to seal between the shutter and the nozzle,

wherein the shutter is rotatable between a closed position where the shutter closes the opening of the nozzle and an open position where the shutter opens the opening of the nozzle, and

wherein the shutter is configured to rotate in the first rotational direction from the closed position to the open position.

Claim 19. A toner container according to claim 12, wherein the inner peripheral surface of the projection is cylindrical and is centered on the rotational axis.

Claim 20. A toner container according to claim 12, wherein the upward facing surface is exposed to outside of the toner container.

Claim 21. A toner container according to claim 12, wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle, the nozzle is above the projection, and the projection is at the bottommost side of the toner container, the projection is provided on a

bottom surface of the nozzle.

Claim 22. A toner container according to claim 21, wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle, the nozzle is above the projection, and the projection is at the bottommost side of the toner container, the projection projects downward through a hole provided in a bottom surface of the shutter.

Claim 23. A toner container comprising:

a toner accommodating body configured to accommodate toner;

a nozzle in fluid communication with the toner accommodating body, the nozzle including an opening configured to form at least a part of a discharge passageway through which toner may be discharged to outside of the toner container, the nozzle being aligned with the toner accommodating body along an axis of the toner container; and

a projection positioned at an end portion of the toner container in a direction of the axis and adjacent to the nozzle,

wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle and the nozzle is above the projection, (i) the opening is positioned on a lateral side of the nozzle that is above the projection, (ii) the projection includes (ii-i) a first guide surface facing downward and extending in circumferential directions about the axis, (ii-ii) a second guide surface facing downward and extending in the circumferential directions, (ii-iii) a third guide surface facing upward and extending in the circumferential directions, and (iv) at least a part of the third guide surface is above an uppermost part of the second guide surface, and

wherein a distance, measured along a line that is perpendicular to the axis, from the axis to the first guide surface is less than a distance, measured along a line that is perpendicular to the axis, from the axis to a part of the second guide surface that is the closest to the axis.

Claim 24. A toner container according to claim 23, wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle and the nozzle is above the projection, the projection includes a connecting portion connecting a downstream end of the

second guide surface in a first circumferential direction of the circumferential directions about the axis to an upstream end of the third guide surface in a second circumferential direction of the circumferential directions about the axis that is opposite to the first circumferential direction.

Claim 25. A toner container according to claim 23, wherein, as viewed in the direction of the axis, the second guide surface overlaps the third guide surface.

Claim 26. A toner container according to claim 23, wherein at least a part of the first guide surface is offset, in the circumferential directions about the axis, from an end of the second guide surface on the same side of the part of the first guide surface in the circumferential directions.

Claim 27. A toner container according to claim 23, wherein the second guide surface and the third guide surface extend in directions that intersect each other.

Claim 28. A toner container according to claim 23, wherein the projection includes an inner peripheral guide surface centered on the axis.

Claim 29. A toner container according to claim 28, wherein, in a direction perpendicular to the axis, the first guide surface, the second guide surface, and the third guide surface are positioned outside the inner peripheral guide surface of the projection and inside the opening of the nozzle.

Claim 30. A toner container according to claim 23, wherein, when the toner container is oriented such that the toner accommodating body is above the nozzle and the nozzle is above the projection, the projection is provided on a bottommost side of the nozzle.