opening 3061) is satisfied, the cover hook 340 falls while being elastically deformed and then restored. Accordingly, the side surface 3401d of the cover hook 3401 comes in contact with the end S1 as illustrated in FIG. ~~44~~47D.

When the side surface 3401d of the cover hook 3401 comes in contact with the end S1, the cover hook 3401 rotates counterclockwise by using the contact point as a pivot as illustrated in FIG. ~~46~~47E. Then, an end S42, which is defined by the inclined portion 3401a of the protrusion and the upper surface 3401c of the cover hook 3401, passes by the end S3 on the insertion side, which is defined by the opening inclined portion 3061a and the end surface 306a on the downstream side in the attachment rotation direction R. At this time, because the relation of (the thickness "d" of the cover hook 3401) ≤ (the interval "t" of the opening 3061) is satisfied, the side surface 3401d of the cover hook 3401 is guided by the opposite surface 3061b and passes through the opening 3061 as illustrated in FIGS. ~~46~~47F and ~~46~~47G. When an upstream end S45 of the upper surface 3401c of the cover hook 3401 in the attachment rotation direction R passes by the end S5 of the first port 3061c of the opening 3061 located on the upstream side in the attachment rotation direction R, the upper surface 3401c of the cover hook 3401 and the end surface 306b face each other as illustrated in FIG. 47H. At this time, if the length of an interval SP1 between the end surface 306b and a component of the container body 33 located on the downstream side in the detachment direction Q1 is set such that the cover hook 340 can sufficiently rotate and the end S4 can pass by the first port 3061c, rotational displacement of the cover hook 340 in the opening 3061 is smoothly performed, which is preferable.

That is, the opening 3061 is configured such that when

CLAIMS

1. A nozzle receiver to be arranged in a powder container used in an image forming apparatus, the nozzle receiver comprising:

a nozzle receiving opening, in which a conveying nozzle for conveying powder supplied from the powder container is inserted in the image forming apparatus;

an opening/closing member to open and to close the nozzle receiving opening; and

a supporter to support the opening/closing member, wherein

the opening/closing member includes a sealing portion to seal the nozzle insertion opening,

the supporter includes an end surface portion perpendicular to a moving direction of the opening/closing member, and

a projection area of the end surface portion in the moving direction of the opening/closing member is smaller than a projection area of the sealing portion in the moving direction of the opening/closing member.

2. The nozzle receiver according to claim 1, further comprising a biasing member that is on the supporter to bias the opening/closing member to a closing position, wherein

the opening/closing member moves to an opening position to open the nozzle receiving opening by being pressed with insertion of the conveying nozzle.

3. The nozzle receiver according to claim 1~~ or 2~~, wherein

the opening/closing member includes an elongated portion extending toward the end surface portion of the supporter, and

the end surface portion includes a through hole into which the elongated portion is inserted and a tapered surface at the through hole.

4. The nozzle receiver according to ~~any one of~~ claims~~s~~ 1 ~~to 3~~, wherein the supporter includes a protrusion that protrudes from the end surface portion.

5. The nozzle receiver according to claim 4, wherein the protrusion protrudes from the end surface portion in an opening direction of the opening/closing member.

6. The nozzle receiver according to claim 4 ~~or 5~~, wherein the opening/closing member includes a hook to be hooked on the end surface portion, and

the protrusion protrudes more than the hook in the opening direction of the opening/closing member.

7. The nozzle receiver according to ~~any one of~~ claims~~s~~ 1 ~~to 6~~, wherein,

a relation of $1 < L1/L2 \leq 2$ is satisfied,

where L1 is a distance between the end surface portion and a rear end surface, which faces to the end surface portion, of the sealing portion when the opening/closing member is at a closing position to close the nozzle receiving opening, and L2 is a distance between the end surface portion and the rear end surface of the sealing portion when the opening/closing member is at an opening position to open the nozzle receiving opening.

8. A powder container comprising the nozzle receiver according to any one of claims 1 to 7.

9. The powder container according to claim 8, further comprising a portion to contain powder, wherein

the powder includes toner.

10. The powder container according to claim 9, wherein the powder includes carrier particles.

11. An image forming apparatus comprising the powder container according to ~~any one of~~ claims ~~8 to 10~~.

12. A powder container to be attached to an image forming apparatus, the powder container comprising:

a powder storage to contain powder;

a holder attached to the powder storage;

a protrusion that is on one of the powder storage and the holder; and

a restrictor that is on the other one of the powder storage and the holder and is to restrict the movement of the protrusion in a longitudinal direction of the powder storage, wherein

the powder storage is to rotate relative to the holder, and

the restrictor includes an opening through which the protrusion passes when the holder is attached to the powder storage.

13. The powder container according to claim 12, wherein

the protrusion includes an inclined portion that is inclined in the rotation direction,

the opening includes an opening inclined portion that is inclined in the same direction as the inclined portion of the protrusion, and

when the inclined portion of the protrusion comes in

contact with the opening inclined portion, the protrusion passes through the opening.

14. The powder container according to claim 12~~ or 13~~, wherein

the powder storage includes a removable container-side gear to which a drive force is transmitted, and

the protrusion is on the gear.

15. The powder container according to claim 13, wherein relations of $d \leq t$ and $a < e$ are satisfied,

where t is an interval of the opening between the opening inclined portion and an opposite surface facing the opening inclined portion,

a is a length of a first port of the opening in the rotation direction, the first port being located on a downstream side in a direction in which the protrusion passes through the opening when the holder is attached to the powder storage;

d is a thickness of the protrusion in an attachment/detachment direction in which the powder container is attached to and detached from the powder replenishing device, and

e is a length of a first surface of the protrusion in the rotation direction, the first surface being a surface that faces the first port after the protrusion passes through the opening.

16. The powder container according to claim 15, wherein a relation of $c < b$ is satisfied,

where b is a length of a second port of the opening in the rotation direction, the second port being located on an upstream side in the direction in which the protrusion

passes through the opening when the holder is attached to the powder storage, and

c is a length of a second surface of the protrusion in the rotation direction, the second surface being a surface opposite to the first surface of the protrusion.

17. The powder container according to claim 15, wherein the opening includes, on the second port side, a guiding portion that is recessed in a detachment direction in which the powder container is detached from the powder replenishing device or inclined in the detachment direction, and

a relation of c < b is satisfied,

where b is a length of the second port of the opening including the guiding portion in the rotation direction, and

c is a length of a second surface of the protrusion in the rotation direction, the second surface being a surface opposite to the first surface of the protrusion.

~~15~~18. The powder container according to any one of claims 12 to 17~~ 14~~, wherein

the powder storage includes powder, and

the powder includes toner.

~~16~~19. The powder container according to claim~~ 15~~18, wherein the powder includes carrier particles.

~~17~~20. An image forming apparatus comprising the powder container according to ~~any one of claims 12 to 16~~18.

21. A supporting device comprising:

a first member that includes a through hole;

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a second member that is detachably attached to the through hole;

a protrusion that is on one of the first member and the second member; and

a restrictor that is on the other one of the first member and the second member and on which the protrusion is hooked, wherein

the first member and the second member are rotatable relative to each other,

the restrictor extends in a rotation direction and includes an opening through which the protrusion passes in a direction perpendicular to the rotation direction.