CLAIMS

[Claim 1]
A developing unit comprising:
a developer;
a developer container accommodating the developer;
a developer bearing member configured to bear the developer supplied from the developer container;
a magnetic-field generation member disposed in the developer bearing member, the magnetic-field generation member having a magnetic-field generation area generating a magnetic field for attracting the developer to the developer bearing member; and
two sealing members provided at both ends of the developer container in a longitudinal direction of the developer bearing member, the two sealing members being configured to prevent the developer from leaking from a gap between a longitudinal end of the developer bearing member and the developer container;
characterized in that an end of the magnetic-field generation area of the magnetic-field generation member is disposed inside the inner ends of the two sealing members in the longitudinal direction;
the developer is a magnetic one-component developer;
and the developer bearing member develops a latent image formed on an image bearing member with the developer while keeping in contact with the image bearing member.

[Claim 2]
The developing unit according to Claim 1, wherein the magnetic-field generation area is shorter than the distance between the two sealing members in the longitudinal direction.

[Claim 3]
The developing unit according to Claim 1, further comprising an opening for supplying the developer from the interior of the developer container to the developer bearing member, wherein the magnetic-field generation area is shorter than the length of the opening in the longitudinal direction.

[Claim 4]
The developing unit according to Claim 1, wherein an end of the magnetic-field generation member is disposed inside the inner ends of the two sealing members.

[Claim 5]
The developing unit according to Claim 4, wherein the magnetic-field generation member is shorter than the distance between the two sealing members in the longitudinal direction.

[Claim 6]
The developing unit according to Claim 4, further comprising an opening for supplying the developer from the interior of the developer container to the developer bearing member, wherein the magnetic-field generation member is shorter than the length of the opening in the longitudinal direction.

[Claim 7]
The developing unit according to Claim 1, wherein the two sealing members prevent the developer from leaking outside the developer container by being in contact with the longitudinal end of the developer bearing member.

[Claim 8]
The developing unit according to Claim 1, wherein the two sealing members are a magnet disposed with a certain gap from the developer bearing member, the two sealing members attracting the developer with its magnetic force to prevent the developer from leaking outside the developer container.

[Claim 9]
The developing unit according to Claim 1, wherein when the developing unit develops a latent image formed on the image bearing member, only a DC voltage is applied to the developer bearing member.

[Claim 10]
The developing unit according to Claim 1, wherein the magnetic-field generation member is cylindrical in shape.

[Claim 11]
A developing unit comprising:
a developer;
a developer container accommodating the developer;
a developer bearing member configured to bear the developer supplied from the developer container;
a magnetic-field generation member disposed in the developer bearing member, the magnetic-field generation member having a magnetic-field generation area generating a magnetic field for attracting the developer to the developer bearing member;
at least one sealing member disposed at the developer container, the sealing member being configured to prevent the developer from leaking from a gap between a longitudinal end of the developer bearing member and the developer container; and
a developer regulating member regulating the amount of the developer born on the developer bearing member;
characterized in that an end of the magnetic-field generation area of the magnetic-field generation member is disposed inside an end of the developer regulating member in the longitudinal direction of the developer bearing member;
the developer is a magnetic one-component developer; and
the developer bearing member develops a latent image formed on an image bearing member with the developer while keeping in contact with the image bearing member.

[Claim 12]
The developing unit according to Claim 11, wherein the magnetic-field generation area is shorter than the developer regulating member in the longitudinal direction.

[Claim 13]
The developing unit according to Claim 11, further comprising an opening for supplying the developer from the interior of the developer container to the developer bearing member, wherein the magnetic-field generation area is shorter than the length of the opening in the longitudinal direction.

[Claim 14]
The developing unit according to Claim 11, wherein an inner end of the sealing member is disposed outside an end of the developer regulating member in the longitudinal direction, and a gap is provided between the sealing member and the developer regulating member.

[Claim 15]
The developing unit according to Claim 11, further comprising an opening for supplying the developer from the interior of the developer container to the developer bearing member, and the magnetic-field generation member is shorter than the length of the opening in the longitudinal direction.

[Claim 16]
The developing unit according to Claim 11, wherein the sealing member is disposed with a certain gap from the developer bearing member, the sealing member attracting the developer with its magnetic force to prevent the developer from leaking outside the developer container.

[Claim 17]
The developing unit according to Claim 11, wherein the sealing member prevents the developer from leaking outside the developer container by being in contact with the longitudinal end of the developer bearing member.

[Claim 18]
The developing unit according to Claim 11, wherein when the developing unit develops a latent image formed on the image bearing member, only a DC voltage is applied to the developer bearing member.

[Claim 19]
A process cartridge that can be attached to and detached from an image forming apparatus main body, the process cartridge comprising:
an image bearing member on which a latent image is formed;
and
a developing unit for developing the latent image, wherein
the developing unit includes:
a developer;
a developer container accommodating the developer;
a developer bearing member configured to bear the developer supplied from the developer container;
a magnetic-field generation member disposed in the developer bearing member, the magnetic-field generation member having a magnetic-field generation area generating a magnetic field for attracting the developer to the developer bearing member; and
two sealing members provided at both ends of the

developer container in a longitudinal direction of the
developer bearing member, the two sealing members being configured to prevent the developer from leaking
from a gap between a longitudinal end of the developer bearing
member and the developer container;
characterized in that an end of the magnetic-field generation area of the magnetic-field
generation member is disposed inside the inner ends of the two sealing
members in the longitudinal direction;
the developer is a magnetic one-component developer; and
the developer bearing member develops a latent image formed on the
image bearing member with the developer while keeping in contact
with the image bearing member.

[Claim 20]
A process cartridge that can be attached to and detached from an image
forming apparatus main body, the process cartridge comprising:
an image bearing member on which a latent image is formed; and
a developing unit for developing the latent image, wherein
the developing unit includes:
a developer;
a developer container accommodating the developer;
a developer bearing member configured to bear the developer supplied
from the developer container;
a magnetic-field generation member disposed in the developer bearing
member, the magnetic-field generation member having a magnetic-field
generation area generating a magnetic field for attracting the
developer to the developer bearing member;
at least one sealing member disposed at the developer container, the
sealing member being configured to prevent the developer from leaking
from a gap between a longitudinal end of the developer bearing
member and the developer container; and
a developer regulating member configured to regulate the amount of the developer born on the
developer bearing member;
characterized in that an end of the magnetic-field generation area of the magnetic-field
generation member is disposed inside an end of the developer
regulating member in the longitudinal direction of the developer
bearing member; the developer is a magnetic one-component developer;
and
the developer bearing member develops a latent image formed on the
image bearing member with the developer while keeping in contact
with the image bearing member.

[Claim 21]
The developing unit according to Claim 1, wherein the developer bearing member includes an electrically conductive elastic layer.

[Claim 22]
The developing unit according to Claim 11, wherein the developer bearing member includes an electrically conductive elastic layer.

[Claim 23]
The process cartridge according to Claim 19, wherein the developer bearing member includes an electrically conductive elastic layer.

[Claim 24]
The process cartridge according to Claim 20, wherein the developer bearing member includes an electrically conductive elastic layer.

[Claim 25]
The developing unit according to Claim 1, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value (Bp) to the maximum value (Bp).

[Claim 26]
The developing unit according to Claim 11, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value (Bp) to the maximum value (Bp).

[Claim 27]
The process cartridge according to Claim 19, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value (Bp) to the maximum value (Bp).

[Claim 28]
The process cartridge according to Claim 20, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value (Bp) to the maximum value (Bp).

CLAIMS:

The invention claimed is:

1. A developing unit comprising:

a developer;

a developer container accommodating the developer;

a developer bearing member configured to bear the developer supplied from the developer container;

a magnetic-field generation member disposed in the developer bearing member, the magnetic-field generation member having a magnetic-field generation area generating a magnetic field for attracting the developer to the developer bearing member; and

at least one sealing member disposed at the developer container, the sealing member being configured to prevent the developer from leaking from a gap between a longitudinal end of the developer bearing member and the developer container;

wherein an end of the magnetic-field generation area of the magnetic-field generation member is disposed inside an inner end of the sealing member in the longitudinal direction of the developer bearing member;

the developer is a magnetic one-component developer; and

the developer bearing member develops a latent image formed on an image bearing member with the developer while keeping in contact with the image bearing member.

2. The developing unit according to claim 1, wherein

the at least one sealing member comprises two sealing members provided at both ends of the developer container in the longitudinal direction; and

the magnetic-field generation area is shorter than the distance between the two sealing members in the longitudinal direction.

3. The developing unit according to claim 1, further comprising an opening for supplying the developer from the interior of the developer container to the developer bearing member, wherein the magnetic-field generation area is shorter than the length of the opening in the longitudinal direction.

4. The developing unit according to claim 1, wherein an end of the magnetic-field generation member is disposed inside the inner end of the sealing member.

5. The developing unit according to claim 4, wherein
the at least one sealing member comprises two sealing members provided at both ends of the developer container in the longitudinal direction; and
the magnetic-field generation member is shorter than the distance between the two sealing members in the longitudinal direction.

6. The developing unit according to claim 4, further comprising an opening for supplying the developer from the interior of the developer container to the developer bearing member, wherein the magnetic-field generation member is shorter than the length of the opening in the longitudinal direction.

7. The developing unit according to claim 1, wherein the sealing member prevents the developer from leaking outside the developer container by being in contact with the longitudinal end of the developer bearing member.

8. The developing unit according to claim 1, wherein the sealing member is a magnet disposed with a certain gap from the developer bearing member, the sealing member attracting the developer with its magnetic force to prevent the developer from leaking outside the developer container.

9. The developing unit according to claim 1, wherein when the developing unit develops a latent image formed on the image bearing member, only a DC voltage is applied to the developer bearing member.

10. The developing unit according to claim 1, wherein the magnetic-field generation member is cylindrical in shape.

11. The developing unit according to claim 1, wherein the developer bearing member includes an elastic layer.

12. The developing unit according to claim 1, wherein the developer bearing member includes an electrically conductive elastic layer.

13. The developing unit according to claim 1, wherein the developer bearing member includes a non-magnetic electrically conductive elastic layer.

14. A developing unit comprising:

a developer;

a developer container accommodating the developer;

a developer bearing member configured to bear the developer supplied from the developer container;

a magnetic-field generation member disposed in the developer bearing member, the magnetic-field generation member having a magnetic-field generation area generating a magnetic field for attracting the developer to the developer bearing member;

at least one sealing member disposed at the developer container, the sealing member being configured to prevent the developer from leaking from a gap between a longitudinal end of the developer bearing member and the developer container; and

a developer regulating member regulating the amount of the developer born on the developer bearing member;

wherein an end of the magnetic-field generation area of the magnetic-field generation member is disposed inside an end of the developer regulating member in the longitudinal direction of the developer bearing member;

the developer is a magnetic one-component developer; and

the developer bearing member develops a latent image formed on an image bearing member with the developer while keeping in contact with the image bearing member.

15. The developing unit according to claim 14, wherein the magnetic-field generation area is shorter than the developer regulating member in the longitudinal direction.

16. The developing unit according to claim 14, further comprising an opening for supplying the developer from the interior of the

developer container to the developer bearing member, wherein the magnetic-field generation area is shorter than the length of the opening in the longitudinal direction.

17. The developing unit according to claim 14, wherein an inner end of the sealing member is disposed outside an end of the developer regulating member in the longitudinal direction, and a gap is provided between the sealing member and the developer regulating member.

18. The developing unit according to claim 14, further comprising an opening for supplying the developer from the interior of the developer container to the developer bearing member, and the magnetic-field generation member is shorter than the length of the opening in the longitudinal direction.

19. The developing unit according to claim 14, wherein the sealing member is disposed with a certain gap from the developer bearing member, the sealing member attracting the developer with its magnetic force to prevent the developer from leaking outside the developer container.

20. The developing unit according to claim 11, wherein the sealing member prevents the developer from leaking outside the developer container by being in contact with the longitudinal end of the developer bearing member.

21. The developing unit according to claim 14, wherein when the developing unit develops a latent image formed on the image bearing member, only a DC voltage is applied to the developer bearing member.

22. The developing unit according to claim 14, wherein the developer bearing member includes an elastic layer.

23. The developing unit according to claim 14, wherein the developer bearing member includes an electrically conductive elastic layer.

24. The developing unit according to claim 14, wherein the developer bearing member includes a non-magnetic electrically conductive elastic layer.

25. The developing unit according to claim 14, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value to the maximum value.

26. A process cartridge that can be attached to and detached from an image forming apparatus main body, the process cartridge comprising:

an image bearing member on which a latent image is formed; and

a developing unit for developing the latent image, wherein the developing unit includes:

a developer;

a developer container accommodating the developer;

a developer bearing member configured to bear the developer supplied from the developer container;

a magnetic-field generation member disposed in the developer bearing member, the magnetic-field generation member having a magnetic-field generation area generating a magnetic field for attracting the developer to the developer bearing member; and

at least one sealing member disposed at the developer container, the sealing member being configured to prevent the developer from leaking from a gap between a longitudinal end of the developer bearing member and the developer container;

wherein an end of the magnetic-field generation area of the magnetic-field generation member is disposed inside an inner end of the sealing member in the longitudinal direction of the developer bearing member;

the developer is a magnetic one-component developer; and

the developer bearing member develops a latent image formed on the image bearing member with the developer while keeping in contact with the image bearing member.

27. The process cartridge according to claim 26, wherein the developer bearing member includes an elastic layer.

28. The process cartridge according to claim 26, wherein the developer bearing member includes an electrically conductive elastic layer.

29. The process cartridge according to claim 26, wherein the developer bearing member includes a non-magnetic electrically conductive elastic layer.

30. The process cartridge according to claim 26, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value to the maximum value.

31. A process cartridge that can be attached to and detached from an image forming apparatus main body, the process cartridge comprising:

an image bearing member on which a latent image is formed; and

a developing unit for developing the latent image, wherein the developing unit includes:

a developer;

a developer container accommodating the developer;

a developer bearing member configured to bear the developer supplied from the developer container;

a magnetic-field generation member disposed in the developer bearing member, the magnetic-field generation member having a magnetic-field generation area generating a magnetic field for attracting the developer to the developer bearing member;

at least one sealing member disposed at the developer container, the sealing member being configured to prevent the developer from leaking from a gap between a longitudinal end of the developer bearing member and the developer container; and

a developer regulating member configured to regulate the amount of the developer born on the developer bearing member;

wherein an end of the magnetic-field generation area of the magnetic-field generation member is disposed inside an end of the developer regulating member in the longitudinal direction of the developer bearing member;

the developer is a magnetic one-component developer; and

the developer bearing member develops a latent image formed on

the image bearing member with the developer while keeping in contact with the image bearing member.

32. The process cartridge according to claim 31, wherein the developer bearing member includes an elastic layer.

33. The process cartridge according to claim 31, wherein the developer bearing member includes an electrically conductive elastic layer.

34. The process cartridge according to claim 31, wherein the developer bearing member includes a non-magnetic electrically conductive elastic layer.

35. The developing unit according to claim 1, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value to the maximum value.

36. The process cartridge to claim 31, wherein the magnetic-field generation area is an area in which a magnetic flux density measured on a surface of the developer bearing member is from 50% of a maximum value to the maximum value.