CLAIMS

Claim 1. An image forming apparatus including a main assembly and a cartridge mountable to the main assembly, the image forming apparatus being provided with a contact force applying portion and a spacing force applying portion, the cartridge comprising:

a photosensitive member;

a charging member for charging the photosensitive member;

a first unit including the photosensitive member and the charging member;

a developing member for depositing toner onto the photosensitive member;

a second unit including the developing member and movable between a developing position in which the toner is capable of being deposited onto the photosensitive member from the developing member and a spaced position in which at least a part of the developing member is spaced from the photosensitive member;

a holding portion movably supported by the first unit or the second unit, the holding portion and being movable between a first position for holding the second unit in the spaced position and a second position for holding the second unit in the developing position;

a contact force receiving portion capable of receiving a contacting force from the contact force applying portion for moving the holding portion from the first position toward the second position to move the second unit to the developing position when the second unit is in the spaced position; and

a spacing force receiving portion capable of receiving a spacing force from the spacing force applying portion for moving the holding portion from the second position to the first position to move the second unit to the spaced position when the second unit is in the developing position,

wherein when a predetermined tangential line is a tangential line of a surface of the photosensitive member at an intersection, which is more remote from a rotational center of the charging member, of intersections between a line connecting a rotational center of the charging member and a rotational center of the

photosensitive member and the surface of the photosensitive member, as viewed along a direction of a rotational axis of the developing member, and the cartridge is divided by the predetermined tangential line into sections, a predetermined section is a section in which the rotational center of the charging member does not exist, and wherein the contact force receiving portion is disposed in the predetermined section, as viewed along the direction of the rotational axis of the developing members, and

wherein when the holding portion is in the first position and the second unit is in the spaced position, the spacing force applying portion and the spacing force receiving portion are in a state of being separated from each other, and the contact force applying portion and the contact force receiving portion are in the state of being separated from each other.

Claim 2. An image forming apparatus according to Claim 1, wherein when the holding portion is in the first position, the holding portion is capable of restricting movement of the second unit from the spaced position to the developing position, and when the holding portion is in the second position, the holding portion permits movement of the second unit from the spaced position to the developing position.

Claim 3. An image forming apparatus according to Claim 2, wherein when the holding portion is in the first position, the holding portion restricts movement of the second unit from the space position to the developing position by contacting with the first unit and the second unit.

Claim 4. An image forming apparatus according to Claim 3, further comprising a holding member including the holding portion, wherein the second unit is provided with a second frame rotatably supporting the developing member.

Claim 5. An image forming apparatus according to Claim 4, wherein the

contact force receiving portion is provided on the holding member.

Claim 6. An image forming apparatus according to Claim 4 or 5, wherein the spacing force receiving portion is provided on the second frame.

Claim 7. An image forming apparatus according to Claim 4 or 5, wherein the spacing force receiving portion is provided on the holding member.

Claim 8. An image forming apparatus according to Claim 4, wherein the contact force receiving portion is provided on the second frame.

Claim 9. An image forming apparatus according to Claim 8, further comprising a spacing force receiving portion for receiving a spacing force for moving the holding portion from the second position to the first position to move the second unit to the space position, when the second unit is in the developing position, wherein the spacing force receiving portion is provided on the second frame.

Claim 10. An image forming apparatus according to Claim 4, further comprising a movable member provided with a pressing portion and the contact force receiving portion, wherein the holding member is provided with a pressed portion, and wherein the holding portion is moved from the first position toward the second position by the pressing portion pressing the pressed portion as a result of movement of the movable member by a force received by the contact force receiving portion.

Claim 11. An image forming apparatus according to Claim 10, further comprising a spacing force receiving portion for receiving a spacing force for moving the holding portion from the second position toward the first position to move the second unit to the space position when the second unit is in the

developing position, wherein the spacing force receiving portion is provided on the movable member.

Claim 12. An image forming apparatus according to any one of Claims 3 - 11, further comprising a holding portion urging member for urging the holding portion from the second position toward the first position.

Claim 13. An image forming apparatus according to Claim 12, wherein the holding portion urging member includes an elastic member.

Claim 14. An image forming apparatus according to Claim 13, wherein the elastic member includes a spring.

Claim 15. An image forming apparatus according to Claim 3, further comprising a holding portion urging member for urging the holding portion in a direction from the second position toward the first position when the holding portion is in the first position, and for urging the holding portion in a direction from the first position toward the second position when the holding portion is in the second position.

Claim 16. An image forming apparatus according to Claim 15, wherein the holding portion urging member includes an elastic member.

Claim 17. An image forming apparatus according to Claim 16, wherein the elastic member includes a spring.

Claim 18. An image forming apparatus according to any one of Claims 4 - 17, wherein the holding member is movably supported by the second frame.

Claim 19. An image forming apparatus according to Claim 18, wherein

the holding member is rotatably supported by the second frame.

Claim 20. An image forming apparatus according to Claim 18 or 19, wherein the first unit includes a first frame rotatably supporting photosensitive member, and the second unit is movable between the spaced position and the developing position by rotation of the second frame relative to the first frame, wherein the holding member disposed on an opposite side of the contact force receiving portion with respect to a rotation axis of the second frame.

Claim 21. An image forming apparatus according to Claim 4, wherein the first unit includes a first frame rotatably supporting the photosensitive member, and the holding member is movably supported by the first frame.

Claim 22. An image forming apparatus according to Claim 4, wherein the first unit includes a first frame rotatably supporting the photosensitive member, and the holding member is integrally formed with the first frame and/or the second frame, and wherein the holding portion is movable between the first position and the second position by deformation of the holding member relative to the first frame and/or the second frame.

Claim 23. An image forming apparatus according to any one of Claims 1 - 22, further comprising a second unit urging member for urging the second unit in a direction from the spaced position toward the developing position.

Claim 24. An image forming apparatus according to Claim 23, wherein the second unit urging member includes an elastic member.

Claim 25. An image forming apparatus according to Claim 24, wherein the elastic member includes a spring.

Claim 26. An image forming apparatus according to any one of Claims 23 - 25, wherein when the holding portion is in the first position, the holding portion is capable of restricting movement of the second unit from the spaced position to the developing position against an urging force of the second unit urging member.

Claim 27. An image forming apparatus according to Claims 2 - 26, further comprising:

a first positioning portion provided in the first unit position the second unit in the spaced position;

a second positioning portion provided in the first unit to position the second unit in the developing position; and

an urging portion for urging the second unit toward the first positioning portion and the second positioning portion,

wherein when the holding portion is in the first position, the second unit is held in the spaced position in a state that the second unit is urged toward the first positioning portion by the urging portion, and when the holding portion is in the second position, the second unit is held in the developing position in the state that the second unit is urged toward the second positioning portion by the urging portion.

Claim 28. An image forming apparatus according to Claim 27, further comprising a holding member including the holding portion, wherein the second unit includes a second frame rotatably supporting the developing member.

Claim 29. An image forming apparatus according to Claims 2 - 26, further comprising a first positioning portion provided in the first unit position the second unit in the spaced position, and a second positioning portion provided in the first unit to position the second unit in the developing position,

wherein in a state in which the cartridge is oriented such that the photosensitive member is in a lower position, when the holding portion is in the

first position, the second unit is supported by the first unit in a state that the second unit is in the spaced position while being urged toward the first positioning portion by a weight thereof, and when holding portion is in the second position, the second unit is supported by the first unit in a state that the second unit is in the developing position while being urged toward the second positioning portion by a weight thereof.

Claim 30. An image forming apparatus according to Claim 29, further comprising a holding member including the holding portion, wherein the second unit includes a second frame rotatably supporting the developing member.

Claim 31. An image forming apparatus according to Claim 1, wherein when the second unit is in the spaced position, a space is capable of being formed between the contact force receiving portion and the spacing force receiving portion, and

wherein as seen in a direction along a rotational axis of the developing member in a state that the space is formed, the contact force receiving portion disposed at a position closer to the rotational axis of the photosensitive member than the spacing force receiving portion.

Claim 32. An image forming apparatus according to Claim 31, further comprising a holding member including the holding portion, wherein the second unit includes a second frame rotatably supporting the developing member, and the contact force receiving portion is provided on the holding member, and the spacing force receiving portion is provided on the second frame.

Claim 33. An image forming apparatus according to Claim 31 or 32, wherein as seen in the direction of an axial direction of the developing member in the state that the space is formed, the contact force receiving portion and the spacing force receiving portion are opposed to each other with the space

therebetween.

Claim 34. An image forming apparatus according to Claim 31, further comprising a holding member including the holding portion, wherein the contact force receiving portion is provided on the holding portion so as to be movable relative to the holding member.

Claim 35. An image forming apparatus according to Claim 34, wherein the spacing force receiving portion is provided on the holding portion so as to be movable relative to the holding member.

Claim 36. An image forming apparatus according to Claim 31, further comprising a holding member including the holding portion, wherein the spacing force receiving portion is provided on the holding portion so as to be movable relative to the holding member.

Claim 37. An image forming apparatus according to Claim 1, wherein the contact force receiving portion is movable between a stand-by position and an operating position where the contact force receiving portion is projected more from the second unit than in the stand-by position, by movement thereof in a predetermined direction,

wherein when the second unit in the spaced position and the contact force receiving portion is in the operating position, the contact force receiving portion is capable of moving the holding portion from the first position to the second position by moving in a first direction crossing with the predetermined direction by receiving a contact force.

Claim 38. An image forming apparatus according to Claim 37, further comprising a holding member including a pressed portion and the holding portion, and a movable member provided with the contact force receiving portion, wherein

by the contact force receiving portion receiving the contact force to move in the first direction, the pressing portion presses the pressed portion to move the holding portion from the first position to the second position.

Claim 39. An image forming apparatus according to Claim 38, wherein the contact force receiving portion displaces in a direction parallel with a direction perpendicular to the axial direction of the developing member.

Claim 40. An image forming apparatus according to Claim 39, wherein the contact force receiving portion is moved in the first directions by rotation of the movable member about a predetermined rotational axis, and the contact force receiving portion is moved in the predetermined direction by movement of the movable member in the direction crossing with the predetermined rotational axis.

Claim 41. An image forming apparatus according to Claim 39, wherein the first unit includes a first frame rotatably supporting the photosensitive member, and the second unit includes a second frame rotatably supporting the developing member, and

wherein the movable member supported by the second frame, and the contact force receiving portion is moved in the predetermined direction the movement of the second frame relative to the first frame.

Claim 42. An image forming apparatus according to Claim 39, wherein the first unit includes a first frame rotatably supporting the photosensitive member, and a supported portion supported to support the first frame, wherein the second unit includes a second frame rotatably supporting the developing member,

wherein the second frame supported by the first frame, and the movable member is supported by the second frame, and

wherein the contact force receiving portion movable in the predetermined direction by movement of the first frame and the second frame relative to the first

frame supporting portion.

Claim 43. An image forming apparatus according to Claim 39, further comprising a rotational driving force receiving portion, wherein the movable member is movable by a driving force from the rotational driving force receiving portion so that the contact force receiving portion moves in the predetermined direction.

Claim 44. An image forming apparatus according to Claim 38, wherein the contact force receiving portion the displaceable in a direction parallel with an axial direction of at least the developing member by movement of the contact force receiving portion in the predetermined direction.

Claim 45. An image forming apparatus according to Claim 44, wherein the contact force receiving portion is movable in the predetermined direction by swing of the movable member about an axis crossing with the rotational axis of the developing member.

Claim 46. An image forming apparatus according to Claim 38, further comprising an urging member having one end portion connected with the holding member and another end portion connected with the movable member,

wherein the urging member is capable of urging the holding member such that the holding portion moves from the second position to the first position, and is capable of urging the movable member such that the contact force receiving portion moves from the operating position to the stand-by position.

Claim 47. An image forming apparatus according to Claim 37, wherein the spacing force receiving portion is movable between a stand-by position and an operating position where the spacing force receiving portion is projected more from the second unit than in the stand-by position, by movement thereof in the

predetermined direction, and

wherein when the second unit is in the developing position and the spacing force receiving portion in the operating position, the holding portion is capable of being moved from the second position toward the first position by the spacing force receiving portion receiving a spacing force to move in a second direction crossing with the predetermined direction.

Claim 48. An image forming apparatus according to any one of Claims 110 - 15, 44 - 47, further comprising an operating force receiving portion for receiving an operating force for moving the contact force receiving portion from the stand-by position to the operating position.

Claim 49. An image forming apparatus according to Claim 1, wherein the contact force receiving portion is movable in a direction parallel with the line while maintaining a state in which at least a part of the developing member is spaced more from the photosensitive member than when the contact force receiving portion is in the developing position.

Claim 50. An image forming apparatus according to Claim 1, wherein by movement of the second unit from the spaced position such that the developing member is further away from the photosensitive member, the spacing force receiving portion moves in a direction parallel with the line while maintaining a state in which at least a part of the developing member is spaced from the photosensitive member.

Claim 51. An image forming apparatus according to Claim 49, wherein the spacing force receiving portion is movable in a direction parallel with the line by linear movement thereof while maintaining a state in which at least a part of the developing member is spaced from the photosensitive member.

Claim 52. An image forming apparatus according to Claim 51, wherein the second unit the movable between the spaced position and the developing position by rotation thereof relative to the first unit,

wherein by movement of the second unit from the spaced position such that the developing member is further away from the photosensitive member, the spacing force receiving portion moves in a direction parallel with the line while maintaining a state in which at least a part of the developing member is spaced from the photosensitive member.

Claim 53. An image forming apparatus according to Claim 49, wherein the contact force receiving portion is movable in a direction parallel with the line, while maintaining a state in which the developing member is in contact with the photosensitive member.

Claim 54. An image forming apparatus according to Claim 53, wherein the holding portion is supported so as to be movable relative to the second unit, and the contact force receiving portion is movable in a direction parallel with the line while maintaining a state in which the developing member is in contact with the photosensitive member, by movement of the holding portion relative to the second unit.

Claim 55. An image forming apparatus according to Claim 1, wherein when the holding portion is in the second position, the holding portion is capable of restricting movement of the second unit from the developing position to the spaced position, and when the holding portion is in the first position, the holding portion permits movement of the second unit from the spaced position to the developing position.

Claim 56. An image forming apparatus according to Claim 55, further comprising a second unit urging member for urging the second unit in a direction

from the developing positioning direction toward the spaced position.

Claim 57. An image forming apparatus according to Claim 1, wherein when the holding portion is in the first position, the holding portion is capable of restricting movement of the second unit from the spaced position to the developing position, and when the holding portion is in the second position, the holding portion is capable of restricting movement of the second unit from the developing position to the spaced position.

Claim 58. An image forming apparatus according to Claim 57, wherein the holding portion is provided with an urging portion, and when the holding portion is in the first position, movement of the second unit from the spaced position to the developing position is restricted by urging the second unit in a direction from the developing position toward the spaced position by the urging portion, and when the holding portion is in the second position, movement of the second unit from the developing position to the spaced position is restricted by urging the second unit in a direction from the spaced position toward the developing position by the urging portion.

Claim 59. An image forming apparatus according to Claim 1, further comprising a movable member including the spacing force receiving portion and a pressing portion capable of pressing the second unit, the movable member being movable relative to the second unit, wherein when the second unit is in the contact position, the movable member is capable of taking a transmission enabled state in which a force received by the spacing force receiving portion is capable of being transmitted to the pressing portion to move the second unit, and a transmission disabled state in which the force received by the spacing force receiving portion is not transmitted to the pressing portion.

Claim 60. An image forming apparatus according to any one of Claims 1 -

59, wherein when the cartridge is divided into sections by a line connecting the rotational center of the photosensitive member and the rotational center of the developing member as seen in a direction of the rotational axis of the developing member in the state that the second unit is in the spaced position, at least a part of the contact force receiving portion is disposed in a section opposite from the section including the rotational center of the charging member.

Claim 61. An image forming apparatus according to any one of Claims 1 - 59, further comprising a coupling member for receiving a driving force for rotationally driving the developing member.

Claim 62. An image forming apparatus according to Claim 61, wherein as viewed along the rotational axis direction of the photosensitive member in a state that the second unit is in the spaced position, when the cartridge is divided into sections by a line connecting the rotational center of the photosensitive member and the rotational center of the developing member, at least a part of the contact force receiving portion is disposed in a section opposite from a section including the coupling member.

Claim 63. An image forming apparatus according to Claim 61, wherein when another predetermined tangential line is a tangential line of a surface of the developing member at an intersection, which is more remote from a rotational center of the coupling member, of intersections between a line connecting a rotational center of the coupling member and a rotational center of the developing member and the surface of the developing member, as viewed along the direction of the rotational axis of the developing member, and another predetermined section is a section in which the rotational center of the coupling member does not exist when the cartridge is divided into sections by the another predetermined tangent line, and wherein when the second unit is in the spaced position, the contact force receiving portion is disposed in the another section, as viewed along the direction of the

rotational axis of the developing member.

Claim 64. An image forming apparatus according to Claim 63, wherein as viewed in an axial direction of the developing member, the contact force receiving portion is provided on a projected portion projected from second unit in a direction parallel with a line connecting at least a rotational center of the coupling member and a rotational center of the developing member.

Claim 65. An image forming apparatus according to Claim 61, further comprising a supply member contactable with the developing member to supply toner to the developing member,

wherein in a state that the second unit is in the spaced position, when the cartridge is divided into sections by a line connecting a rotational center of the developing member and a rotational center of the supplying member as viewed along the direction of the rotational axis of the developing member, at least a part of the contact force receiving portion is disposed in a section opposite from a section including the rotational center of the coupling.

Claim 66. An image forming apparatus according to Claim 61, wherein the contact force receiving portion is disposed on a side including the coupling member with respect to a direction of the rotational axis of the developing member.