CLAIMS

1. A cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, said cartridge comprising:

(i) a rotatable developing roller for developing a latent image formed on a photosensitive member;

(ii) a first drive transmission member capable of receiving a rotational force originated by the main assembly;

(iii) a second drive transmission member capable of coupling with said first drive transmission member and capable of transmitting the rotational force received by said first drive transmission member to said developing roller; and

(iv) a coupling disconnection member including (iv - i) a force receiving portion capable of receiving the force originated by the main assembly, and (iv-ii) an urging portion capable of urging at least one of said first drive transmission member and said second drive transmission member by the force received by said force receiving portion to separate one of said first drive transmission member and said second drive transmission member from the other, thereby disconnecting the coupling.

2. A cartridge according to Claim 1, wherein said coupling disconnection member is movable substantially in parallel with a rotational axis of the developing roller.

3. A cartridge according to Claim 2, further comprising a guide portion for guiding a guided portion of the coupling disconnection member to move said coupling disconnection member substantially in parallel with the rotational axis of the developing roller.

4. A cartridge according to Claim 3, wherein said guide portion and said guided portion extend substantially in parallel with the rotational axis of the developing roller.

5. A cartridge according to any one of Claims 3 or 4, further comprising a cartridge frame which is provided with said guide portion.

6. A cartridge according to any one of Claims 2 - 5, wherein by said coupling disconnection member moving substantially in parallel with the rotational axis of the developing roller, at least one of said first drive transmission member and said second drive transmission member is moved substantially in parallel with the rotational axis of the developing roller.

7. A cartridge according to any one of Claims 1 - 6, wherein in a direction parallel with an axis of the developing roller, at least a part of said coupling disconnection member is between said first drive transmission member and said second drive transmission member.

8. A cartridge according to any one of Claims 1 - 7, wherein when said coupling disconnection member and said first drive transmission member are projected onto a phantom line parallel with an axis of said developing roller in a state that said first drive transmission member and said second drive transmission member are coupled, a region of at least a part of said coupling disconnection member overlaps with a region of at least a part of said first drive transmission member.

9. A cartridge according to Claim 8, wherein when said coupling disconnection

member and said first drive transmission member are projected onto the phantom line in a state that said first drive transmission member and said second drive transmission member are coupled, a region of said coupling disconnection member is in a region of said first drive transmission member.

10. A cartridge according to any one of Claims 1 - 9, wherein when said coupling disconnection member and said second drive transmission member are projected onto a phantom line parallel with an axis of said developing roller in a state that said first drive transmission member and said second drive transmission member are coupled, a region of at least a part of said coupling disconnection member overlaps with a region of at least a part of said second drive transmission member.

11. A cartridge according to any one of Claims 1 - 10, wherein when said first drive transmission member and said second drive transmission member are projected onto a phantom line parallel with an axis of said developing roller in a state that said first drive transmission member and said second drive transmission member are disconnected, a region of at least a part of said first drive transmission member overlaps with a region of at least a part of said second drive transmission member.

12. A cartridge according to Claim 11, wherein when said coupling disconnection member and said first drive transmission member are projected onto the phantom line in a state that said first drive transmission member and said second drive transmission member are disconnected, a region of said coupling disconnection member is in a region of said first drive transmission member.

13. A cartridge according to any one of Claims 1 - 12, wherein in a state that

second drive transmission member and said first drive transmission member are disconnected, said second drive transmission member and said first drive transmission member are directly engaged with each other in a coaxial state.

14. A cartridge according to any one of Claims 1 - 13, wherein said first drive transmission member includes one end portion side supported portion and the other end portion side supported portion rotatably supported one end portion side and the other end portion side of a rotational axis direction of said first drive transmission member.

15. A cartridge according to Claim 14, wherein said first drive transmission member provided with a first engaging portion between the one end portion side supported portion and the other end portion side supported portion, and said second drive transmission member is provided with a second engaging portion engaged with said first engaging portion.

16. A cartridge according to Claim 14or 15, further comprising a cartridge frame provided with one end portion side supporting portion for rotatably supporting the one end portion side supported portion of said first drive transmission member.

17. A cartridge according to Claim 13, wherein said first drive transmission member includes a shaft portion extending along a rotational axis thereof, and said second drive transmission member includes a hole portion extending along a rotational axis thereof, wherein said first drive transmission member and said second drive transmission member are directly engaged by said shaft portion penetrating said hole portion.

18. A cartridge according to Claim 17, wherein said first drive transmission member includes a rotational force receiving portion for receiving a rotational force from the main assembly at the one end portion with respect to a rotational axis direction thereof, and is provided with said shaft portion at the other end portion with respect to the rotational axis direction.

19. A cartridge according to Claim 18, wherein said first drive transmission member includes a coupling portion for engagement with said second drive transmission member at a position between said rotational force receiving portion and said shaft portion with respect to a direction parallel with the rotational axis of the developing roller.

20. A cartridge according to Claim 19, wherein said coupling portion is disposed at a position remoter from the rotational axis of the first drive transmission member than said shaft portion with respect to a radial direction of said first drive transmission member.

21. A cartridge according to Claim 19 or 20, wherein said first drive transmission member is provided with one end portion side supported portion and another end portion side supported portion which are rotatably supported at one end portion side and the other end portion side with respect to the rotational axis direction.

22. A cartridge according to Claim 21, wherein said other end portion side supported portion is provided at a free end of the shaft portion, and said one end portion side supported portion is provided between said rotational force receiving portion and said coupling portion.

23. A cartridge according to Claim 22, wherein said one end portion side supported portion is disposed at a position remoter from the rotational axis of the first drive transmission member than said coupling portion with respect to a radial direction of said first drive transmission member.

24. A cartridge according to Claim 22or 23, wherein said one end portion side supported portion is disposed at a position remoter from the rotational axis of the first drive transmission member than said rotational force receiving portion.

25. A cartridge according to any one of Claims 1 - 24, wherein said urging portion of the coupling disconnection member is capable of urging said second drive transmission member to separate said second drive transmission member from said first drive transmission member.

26. A cartridge according to Claim 25, further comprising a third drive transmission member for transmitting the rotational force received from said second drive transmission member to said developing roller.

27. A cartridge according to Claim 26, wherein said third drive transmission member movably supports said second drive transmission member so that said second drive transmission member is capable of moving away from said first drive transmission member.

28. A cartridge according to Claim 27, wherein said third drive transmission member has a substantially cylindrical shape, and said second drive transmission member is reciprocable along a rotational axis thereof inside said third drive

transmission member.

29. A cartridge according to Claim 28, wherein said third drive transmission member includes a shaft portion extending in parallel with the rotational axis thereof, and said second drive transmission member is provided with a hole portion, and wherein said second drive transmission member is reciprocable along said shaft portion in a state that said shaft portion engages with said hole portion.

30. A cartridge according to Claim 29, wherein said third drive transmission member receives the rotational force from said second drive transmission member through engagement between said hole portion and said shaft portion.

31. A cartridge according to Claim 29or 30, wherein said shaft portion is provided at each of a plurality of positions around the rotational axis of the third drive transmission member, and said hole portion is provided at each of a plurality of positions around the rotational axis of the second drive transmission member, and wherein said second drive transmission member is reciprocable along said shaft portion in a state that said shaft portions and said hole positions are engaged with each other, respectively.

32. A cartridge according to Claim 27, further comprising an elastic member provided between said second drive transmission member and said third drive transmission member.

33. A cartridge according to any one of Claims 28 - 31, further comprising an elastic member inside said third drive transmission member, wherein said second

drive transmission member is disconnected from said first drive transmission member by moving to an inside of said third drive transmission member against an elastic force of said elastic member.

34. A cartridge according to any one of Claims26 - 33, wherein said third drive transmission member includes a gear portion for transmitting the rotational force to said developing roller, at an outer periphery thereof.

35. A cartridge according to Claim 26 - 33, wherein said first drive transmission member is provided with one end portion side supported portion and another end portion side supported portion which are rotatably supported at one end portion side and the other end portion side with respect to the rotational axis direction.

36. A cartridge according to Claim 35, wherein an engaging portion provided between said one end portion side supported portion and said other end portion side supported portion of said first drive transmission member is engaged with an engaging portion of said second drive transmission member.

37. A cartridge according to Claim 36, further comprising a cartridge frame which is provided with one end portion side supporting portion for rotatably supporting said one end portion side supported portion of said first drive transmission member.

38. A cartridge according to Claim 37, wherein said third drive transmission member is provided with another end portion side supporting portion for rotatably supporting said other end portion side supported portion of said first drive transmission member.

39. A cartridge according to any one of Claims 1 - 38, further comprising a developing device frame rotatably supporting said developing roller, and a rotatable member rotatable relative to said developing device frame, wherein said rotatable member includes another urging portion for applying a force to said force receiving portion by rotation thereof.

40. A cartridge according to Claim 39, wherein said force receiving portion and said other urging portion are inclined relative to the rotational axis of said developing roller.

41. A cartridge according to Claim 40, wherein said force receiving portion and said other urging portion are contacted at positions where they are inclined, also in a state that said cartridge is mounted to said main assembly with said coupling being in a disconnected state.

42. A cartridge according to any one of Claims 39 - 41, wherein at least a part of said rotatable member is between said first drive transmission member and said second drive transmission member.

43. A cartridge according to Claim 42, wherein said rotatable member has a ring portion having a substantially ring configuration.

44. A cartridge according to Claim 43, wherein said rotatable member is provided with a projected portion projected from said ring portion.

45. A cartridge according to Claim 44, further comprising said photosensitive

member, a photosensitive member frame supporting said photosensitive member, wherein said developing device frame is movably connected with said photosensitive member frame so that said developing roller is movable toward and away from said photosensitive member.

46. A cartridge according to Claim 45, wherein said projected portion of said rotatable member receives a force from said photosensitive member frame in interrelation with movement of said developing device frame relative to said photosensitive member frame to rotate said rotatable member.

47. A cartridge according to Claim 46, wherein as seen in a direction along the axis of said developing roller, said projected portion of said rotatable member projects from said developing device frame toward said photosensitive member frame.

48. A cartridge according to any one of Claims 44 - 47, wherein in a state that cartridge is mounted to the main assembly, said projected portion of said rotatable member receives a force from a portion fixed to the main assembly.

49. A cartridge according to any one of Claims 39 - 44, further comprising said photosensitive member and a photosensitive member frame rotatably supporting said photosensitive member.

50. A cartridge according to Claim 49, wherein in a state that said cartridge is mounted to the main assembly, said photosensitive member frame is fixed to the main assembly, and said developing device frame is movably relative to said photosensitive member frame.

51. A cartridge according to Claim 50, wherein said developing roller is capable of moving toward and away from said photosensitive member by said developing device frame moving relative to said photosensitive member frame.

52. A cartridge according to Claim 51, wherein said developing device frame is provided with a spacing force receiving portion for receiving from the main assembly a spacing force for spacing said developing roller from said photosensitive member.

53. A cartridge according to Claim 52, wherein when said cartridge is seen along the rotational axis of said developing roller, said spacing force receiving portion is projected at a position opposite from said first drive transmission member with respect to said developing roller.

54. A cartridge according to Claim 53, wherein said coupling disconnection member and said rotatable member are provided in said developing device frame, and wherein by said spacing force receiving portion receiving the spacing force, said projected portion of said rotatable member receives the force from said photosensitive member frame to rotate said rotatable member.

55. A cartridge according to any one of Claims 39 - 54, wherein a rotation axis of said rotatable member is substantially coaxial with the rotational axes of said first drive transmission member and said second drive transmission member.

56. A cartridge according to any one of Claims 1 - 55, wherein coupling portions of said first drive transmission member and said second drive transmission

member are formed such that they are pulled toward each other.

57. A cartridge according to any one of Claims 1 to 56, wherein coupling portions of said first drive transmission member and said second drive transmission member each include two - nine claws.

58. A cartridge according to Claim 57, wherein coupling portions of said first drive transmission member and said second drive transmission member each include six claws.

59. A cartridge according to any one of Claims 1 - 58, wherein said coupling disconnection member includes a ring portion having a substantially ring configuration.

60. A cartridge according to Claim 59, wherein said ring portion is provided with said urging portion.

61. A cartridge according to Claim 60, wherein said urging portion has a surface substantially perpendicular to the rotational axis of said developing roller.

62. A cartridge according to any one of Claims 59 - 61, wherein said coupling disconnection member has a projected portion projected from said ring portion.

63. A cartridge according to Claim 62, wherein said projected portion projects in a direction substantially perpendicular to a phantom surface including said ring portion.

64. A cartridge according to Claim 62, wherein said projected portion projects radially outwardly of said ring portion.

65. A cartridge according to Claim 62or 63, further comprising a guide portion for guiding a guided portion of said projected portion so that said coupling disconnection member is movable substantially in parallel with the rotational axis of said developing roller.

66. A cartridge according to Claim 65, wherein said guide portion and said guided portion extend substantially in parallel with the rotational axis of the developing roller.

67. A cartridge according to Claim 66, further comprising a cartridge frame which is provided with said guide portion.

68. A cartridge according to any one of Claims 62 - 67, wherein said projected portion is provided with said force receiving portion.

69. A cartridge according to Claim 68, wherein said force receiving portion is inclined relative to the rotational axis of said developing roller.

70. A cartridge according to any one of Claims 62 - 69, wherein said coupling disconnection member includes a plurality of such projected portions.

71. A cartridge according to Claim 70, wherein said projected portions are arranged at substantially regular intervals.

72. A cartridge according to any one of Claims 62 - 69, wherein said coupling disconnection member three of such projected portions.

73. A cartridge according to Claim 72, wherein said three projected portions are arranged at substantially regular intervals.

74. A cartridge according to any one of Claims 1 - 73, wherein said coupling disconnection member is substantially co-axial with the rotation axes of said first drive transmission member and said second drive transmission member.

75. An electrophotographic image forming apparatus capable of image formation on a recording material, said electrophotographic image forming apparatus comprising:

(i) a main assembly including a main assembly drive transmission member and a main assembly urging member; and

(ii) a cartridge detachably mountable to said main assembly, said cartridge including,

(ii - i) a rotatable developing roller for developing a latent image formed on a photosensitive member;

(ii - ii) a first drive transmission member capable of receiving a rotational force originated by said main assembly;

(ii - iii) a second drive transmission member capable of coupling with said first drive transmission member and capable of transmitting the rotational force received by said first drive transmission member to said developing roller; and

(ii - iv) a coupling disconnection member including (ii-iv - i) a force receiving portion capable of receiving the force originated by the main

assembly urging member, and (ii-iv-ii) an urging portion capable of urging at least one of said first drive transmission member and said second drive transmission member by the force received by said force receiving portion to separate one of said first drive transmission member and said second drive transmission member from the other, thereby disconnecting the coupling.

76. An process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, said main assembly including a main assembly drive transmission member and a main assembly urging member, said process cartridge comprising:

(i) rotatable photosensitive member;

(ii) a rotatable developing roller for developing a latent image formed on said photosensitive member, said developing roller being movable toward and away from said photosensitive member;

(iii) an urging force receiving portion for receiving an urging force from the main assembly urging member to space said developing roller from said photosensitive member;

(iv) a first drive transmission member for receiving a rotational force from the main assembly drive transmission member;

(v) a second drive transmission member capable of coupling with said first drive transmission member and capable of transmitting the rotational force received by said first drive transmission member to said developing roller; and

(vi) an urging portion capable of urging at least one of said first drive transmission member and said second drive transmission member by the force received by said urging force receiving portion to separate one of said first drive transmission member and said second drive transmission member from the other, thereby disconnecting the coupling

77. A process cartridge according to Claim 76, wherein said coupling disconnection member is movable substantially in parallel with a rotational axis of the developing roller.

78. A process cartridge according to Claim 77, further comprising a guide portion for guiding a guided portion of the coupling disconnection member to move said coupling disconnection member substantially in parallel with the rotational axis of the developing roller.

79. A process cartridge according to Claim 78, wherein said guide portion and said guided portion extend substantially in parallel with the rotational axis of the developing roller.

80. A process cartridge according to Claim 78 or 79, further comprising a cartridge frame which is provided with said guide portion.

81. A process cartridge according to any one of Claims 77 - 80, wherein by said coupling disconnection member moving substantially in parallel with the rotational axis of the developing roller, at least one of said first drive transmission member and said second drive transmission member is moved substantially in parallel with the rotational axis of the developing roller.

82. A cartridge according to any one of Claims 76 - 81, wherein in a direction parallel with an axis of the developing roller, at least a part of said coupling disconnection member is between said first drive transmission member and said second drive transmission member.

83. A cartridge according to any one of Claims 76 - 81, wherein when said coupling disconnection member and said first drive transmission member are projected onto a phantom line parallel with an axis of said developing roller in a state that said first drive transmission member and said second drive transmission member are coupled, a region of at least a part of said coupling disconnection member overlaps with a region of at least a part of said first drive transmission member.

84. A process cartridge according to Claim 83, wherein when said coupling disconnection member and said first drive transmission member are projected onto the phantom line in a state that said first drive transmission member and said second drive transmission member are coupled, a region of said coupling disconnection member is in a region of said first drive transmission member.

85. A process cartridge according to any one of Claims 76 - 84, wherein when said coupling disconnection member and said second drive transmission member are projected onto a phantom line parallel with an axis of said developing roller in a state that said first drive transmission member and said second drive transmission member are coupled, a region of at least a part of said coupling disconnection member overlaps with a region of at least a part of said second drive transmission member

86. A process cartridge according to any one of Claims 76 - 85, wherein when said first drive transmission member and said second drive transmission member are projected onto a phantom line parallel with an axis of said developing roller in a state that said first drive transmission member and said second drive

transmission member are disconnected, a region of at least a part of said first drive transmission member overlaps with a region of at least a part of said second drive transmission member.

87. A process cartridge according to Claim 86, wherein when said coupling disconnection member and said first drive transmission member are projected onto the phantom line in a state that said first drive transmission member and said second drive transmission member are disconnected, a region of said coupling disconnection member is in a region of said first drive transmission member.

88. A process cartridge according to any one of Claims 76 - 87, wherein in a state that second drive transmission member and said first drive transmission member are disconnected, said second drive transmission member and said first drive transmission member are directly engaged with each other in a coaxial state.

89. A process cartridge according to Claim 88, wherein said first drive transmission member includes one end portion side supported portion and the other end portion side supported portion rotatably supported one end portion side and the other end portion side of a rotational axis direction of said first drive transmission member.

90. A process cartridge according to Claim 89, wherein said first drive transmission member provided with a first engaging portion between the one end portion side supported portion and the other end portion side supported portion, and said second drive transmission member is provided with a second engaging portion engaged with said first engaging portion.

91. A process cartridge according to Claim 89or 90, further comprising a cartridge frame provided with one end portion side supporting portion for rotatably supporting the one end portion side supported portion of said first drive transmission member.

92. A process cartridge according to any one of Claims 89 - 91, wherein said first drive transmission member includes a shaft portion extending along a rotational axis thereof, and said second drive transmission member includes a hole portion extending along a rotational axis thereof, wherein said first drive transmission member and said second drive transmission member are directly engaged by said shaft portion penetrating said hole portion.

93. A process cartridge according to Claim 92, wherein said first drive transmission member includes a rotational force receiving portion for receiving a rotational force from the main assembly at the one end portion with respect to a rotational axis direction thereof, and is provided with said shaft portion at the other end portion with respect to the rotational axis direction.

94. A process cartridge according to Claim 93, wherein said first drive transmission member includes a coupling portion for engagement with said second drive transmission member at a position between said rotational force receiving portion and said shaft portion with respect to a direction parallel with the rotational axis of said first drive transmission member.

95. A process cartridge according to Claim 94, wherein said coupling portion is disposed at a position remoter from the rotational axis of the first drive transmission member than said shaft portion with respect to a radial direction of

said first drive transmission member.

96. A process cartridge according to Claim 94 or 95, wherein said first drive transmission member is provided with one end portion side supported portion and another end portion side supported portion which are rotatably supported at one end portion side and the other end portion side with respect to the rotational axis direction.

97. A process cartridge according to Claim 96, wherein said other end portion side supported portion is provided at a free end of the shaft portion, and said one end portion side supported portion is provided between said rotational force receiving portion and said coupling portion.

98. A process cartridge according to Claim 97, wherein said one end portion side supported portion is disposed at a position remoter from the rotational axis of the first drive transmission member than said coupling portion with respect to a radial direction of said first drive transmission member.

99. A process cartridge according to Claim 97or 98, wherein said one end portion side supported portion is disposed at a position remoter from the rotational axis of the first drive transmission member than said rotational force receiving portion.

100. A process cartridge according to any one of Claims 76 - 99, wherein said coupling disconnection member is capable of urging said second drive transmission member to separate said second drive transmission member from said first drive transmission member.

101. A process cartridge according to Claim 100, further comprising a third drive transmission member for transmitting the rotational force received from said second drive transmission member to said developing roller.

102. A process cartridge according to Claim 101, wherein said third drive transmission member movably supports said second drive transmission member so that said second drive transmission member is capable of moving away from said first drive transmission member.

103. A process cartridge according to Claim 102, wherein said third drive transmission member has a substantially cylindrical shape, and said second drive transmission member is reciprocable along a rotational axis thereof inside said third drive transmission member.

104. A process cartridge according to Claim 103, wherein said third drive transmission member includes a shaft portion extending in parallel with the rotational axis thereof, and said second drive transmission member is provided with a hole portion, and wherein said second drive transmission member is reciprocable along said shaft portion in a state that said shaft portion engages with said hole portion.

105. A process cartridge according to Claim 104, wherein said third drive transmission member receives the rotational force from said second drive transmission member through engagement between said hole portion and said shaft portion.

106. A process cartridge according to Claim 104or 105, wherein said shaft

portion is provided at each of a plurality of positions around the rotational axis of the third drive transmission member, and said hole portion is provided at each of a plurality of positions around the rotational axis of the second drive transmission member, and wherein said second drive transmission member is reciprocable along said shaft portion in a state that said shaft portions and said hole positions are engaged with each other, respectively.

107. A process cartridge according to Claim 102, further comprising an elastic member provided between said second drive transmission member and said third drive transmission member.

108. A process cartridge according to any one of Claims 103 - 106, further comprising an elastic member inside said third drive transmission member, wherein said second drive transmission member is disconnected from said first drive transmission member by moving to an inside of said third drive transmission member against an elastic force of said elastic member.

109. A process cartridge according to any one of Claims 101 - 108, wherein said third drive transmission member includes a gear portion for transmitting the rotational force to said developing roller, at an outer periphery thereof.

110. A process cartridge according to Claim 101 - 108, wherein said first drive transmission member is provided with one end portion side supported portion and another end portion side supported portion which are rotatably supported at one end portion side and the other end portion side with respect to the rotational axis direction.

111. A process cartridge according to Claim 110, wherein an engaging portion provided between said one end portion side supported portion and said other end portion side supported portion of said first drive transmission member is engaged with an engaging portion of said second drive transmission member.

112. A process cartridge according to Claim 111, further comprising a cartridge frame which is provided with one end portion side supporting portion for rotatably supporting said one end portion side supported portion of said first drive transmission member.

113. A process cartridge according to Claim 112, wherein said third drive transmission member is provided with another end portion side supporting portion for rotatably supporting said other end portion side supported portion of said first drive transmission member.

114. A process cartridge according to any one of Claims 76 - 113, further comprising a developing device frame rotatably supporting said developing roller, and a rotatable member rotatable relative to said developing device frame, wherein said rotatable member includes another urging portion for applying a force to said force receiving portion by rotation thereof.

115. A process cartridge according to Claim 114, wherein said force receiving portion and said other urging portion are inclined relative to the rotational axis of said developing roller.

116. A process cartridge according to Claim 115, wherein said force receiving portion and said other urging portion are contacted at positions where they are

inclined, also in a state that said cartridge is mounted to said main assembly with said coupling being in a disconnected state.

117. A process cartridge according to any one of Claims 114 - 116, wherein at least a part of said rotatable member is between said first drive transmission member and said second drive transmission member.

118. A process cartridge according to Claim 117, wherein said rotatable member has a ring portion having a substantially ring configuration.

119. A process cartridge according to Claim 118, wherein said rotatable member is provided with a projected portion projected from said ring portion.

120. A process cartridge according to Claim 119, wherein further comprising a photosensitive member frame supporting said photosensitive member, wherein said developing device frame is movably connected with said photosensitive member frame so that said developing roller is movable toward and away from said photosensitive member.

121. A process cartridge according to Claim 120, wherein said projected portion of said rotatable member receives a force from said photosensitive member frame in interrelation with movement of said developing device frame relative to said photosensitive member frame to rotate said rotatable member.

122. A process cartridge according to Claim 121, wherein as seen in a direction along the axis of said developing roller, said projected portion of said rotatable member projects from said developing device frame toward said photosensitive

member frame.

123. A cartridge according to any one of Claims 119 - 122, wherein in a state that cartridge is mounted to the main assembly, said projected portion of said rotatable member receives a force from a portion fixed to the main assembly.

124. A process cartridge according to any one of Claims 114 - 123, wherein said developing device frame is provided with said spacing force receiving portion.

125. A process cartridge according to Claim 124, wherein when said cartridge is seen along the rotational axis of said developing roller, said spacing force receiving portion is projected at a position opposite from said first drive transmission member with respect to said developing roller.

126. A process cartridge according to Claim 124 or 125, wherein said coupling disconnection member and said rotatable member are provided in said developing device frame, and wherein by said spacing force receiving portion receiving the spacing force, said projected portion of said rotatable member receives the force from said photosensitive member frame to rotate said rotatable member.

127. A process cartridge according to any one of Claims 76 - 126, wherein coupling portions of said first drive transmission member and said second drive transmission member are formed such that they are pulled toward each other.

128. A process cartridge according to any one of Claims 76 to 127, wherein coupling portions of said first drive transmission member and said second drive transmission member each include two - nine claws.

129. A process cartridge according to Claim 128, wherein coupling portions of said first drive transmission member and said second drive transmission member each include six claws.

130. A process cartridge according to any one of Claims 76 - 129, wherein said coupling disconnection member includes a ring portion having a substantially ring configuration.

131. A process cartridge according to Claim 130, wherein said ring portion is provided with said urging portion.

132. A process cartridge according to Claim 131, wherein said urging portion has a surface substantially perpendicular to the rotational axis of said developing roller.

133. A process cartridge according to any one of Claims 130 - 132, wherein said coupling disconnection member has a projected portion projected from said ring portion.

134. A process cartridge according to Claim 133, wherein said projected portion projects in a direction substantially perpendicular to a phantom surface including said ring portion.

135. A process cartridge according to Claim 133, wherein said projected portion projects radially outwardly of said ring portion.

136. A process cartridge according to Claim 133or 134, further comprising a guide portion for guiding a guided portion of said projected portion so that said coupling disconnection member is movable substantially in parallel with the rotational axis of said developing roller.

137. A process cartridge according to Claim 136, wherein said guide portion and said guided portion extend substantially in parallel with the rotational axis of the developing roller.

138. A process cartridge according to Claim 137, further comprising a cartridge frame which is provided with said guide portion.

139. A process cartridge according to any one of Claims 133 - 138, wherein said projected portion is provided with said force receiving portion.

140. A process cartridge according to Claim 139, wherein said force receiving portion is inclined relative to the rotational axis of said developing roller.

141. A process cartridge according to any one of Claims 133 - 140, wherein said coupling disconnection member includes a plurality of such projected portions.

142. A process cartridge according to Claim 141, wherein said projected portions are arranged at substantially regular intervals.

143. A process cartridge according to any one of Claims 133 - 140, wherein said coupling disconnection member three of such projected portions.

144. A process cartridge according to Claim 143, wherein said three projected portions are arranged at substantially regular intervals.

145. An electrophotographic image forming apparatus capable of image formation on a recording material, said electrophotographic image forming apparatus comprising:

(i) a main assembly including a spacing force urging member and a main assembly drive transmission member; and

(ii) a process cartridge detachably mountable to said main assembly, said process cartridge including,

(ii - i) a rotatable photosensitive member,

(ii - ii) a developing roller rotatable to develop a latent image formed on said photosensitive member, said developing roller being movable toward and away from said photosensitive member,

(ii - iii) a spacing force receiving portion for receiving a spacing force for spacing said developing roller from said photosensitive member, from said spacing force urging member,

(ii - iv) a first drive transmission member for receiving a rotational force from the main assembly drive transmission member,

(ii - v) a second drive transmission member capable of connecting with said first drive transmission member to transmit the rotational force received by said first drive transmission member to said developing roller, and

(ii - vi) a coupling disconnection member capable of urging at least one of said first drive transmission member and said second drive transmission member to separate one of said first drive transmission member and said second drive transmission member from the other to disconnect the coupling by said spacing force received by said spacing force receiving portion.

146. An process cartridge detachably mountable to a main assembly of an electrophotographic image forming apparatus, said process cartridge comprising:

a photosensitive member;

a photosensitive member frame rotatably supporting said photosensitive member;

a developing roller for developing a latent image formed on said photosensitive member;

a developing device frame rotatably supporting said developing roller and connected with said photosensitive member frame so as to be rotatable between a contacting position in which said developing roller is contacted with said photosensitive member and a spacing position in which said developing roller is spaced from said photosensitive member;

a first drive transmission member rotatable about a rotation axis about which said developing device frame is rotatable relative to said photosensitive member frame and capable of receiving a rotational force from the main assembly;

a second drive transmission member rotatable about the rotation axis and capable of connecting with said first drive transmission member and transmitting the rotational force to said developing roller; and

a disconnecting mechanism for disconnecting between said first drive transmission member and said second drive transmission member in accordance with rotation of the developing device frame from the contacting position to said spacing position.

147. A process cartridge according to Claim 146, wherein said disconnecting mechanism disconnects between said first drive transmission member and said

second drive transmission member by moving said second drive transmission member along the rotation axis in accordance with rotation of said developing device frame from the contacting position to the spacing position.

148. A process cartridge according to Claim 146or 147, wherein said disconnecting mechanism includes a guide portion for moving said second drive transmission member along the rotation axis.

149. A process cartridge according to Claim 148, wherein said guide portion is provided on said developing device frame.

150. A process cartridge according to any one of Claims 146 - 149, wherein said disconnecting mechanism includes a coupling disconnection member movable in parallel with the rotation axis, and said coupling disconnection member urges said second drive transmission member to separate from the first drive transmission member with the rotation of said developing device frame from the contacting position to the spacing position.

151. A process cartridge according to Claim 150, wherein said disconnecting mechanism includes another guide portion for moving said coupling disconnection member along the rotation axis.

152. A process cartridge according to Claim 151, wherein said other guide portion is provided on said developing device frame.

153. A process cartridge according to Claim 151, wherein said other guide portion is provided on said photosensitive member frame.

154. A process cartridge according to any one of Claims 146 - 153, wherein said disconnecting mechanism includes an urging member for urging said coupling disconnection member in accordance with the rotation of said developing device frame from the contacting position to the spacing position.

155. A process cartridge according to Claim 154, wherein said urging member is movably provided on said developing device frame, and is movable relative to said developing device frame by receiving a force from said photosensitive member frame in accordance with the rotation of said developing device frame from the contacting position to the spacing position.

156. A process cartridge according to Claim 155, wherein said urging member is rotatable relative to said developing device frame about the rotation axis.

157. A process cartridge according to Claim 154, wherein said urging member is provided on said photosensitive member frame.

158. A process cartridge according to Claim 157, wherein said urging member is fixed to said photosensitive member frame.

159. An electrophotographic image forming apparatus for forming an image on a recording material, said electrophotographic image forming apparatus comprising:

(i) a main assembly including a main assembly drive transmission member for transmitting a rotational force; and

(ii) a process cartridge detachably mountable to said main assembly,

said process cartridge including,

(ii - i) a photosensitive member,

(ii - ii) a photosensitive member frame for rotatably supporting said photosensitive member,

(ii - iii) a developing roller,

(ii - iv) a developing device frame rotatably supporting said developing roller and connected with said photosensitive member frame so as to be rotatable between a contacting position in which said developing roller is contacted with said photosensitive member and a spacing position in which said developing roller is spaced from said photosensitive member,

(ii - v) a first drive transmission member rotatable about a rotation axis about which said developing device frame is rotatable relative to said photosensitive member frame and capable of receiving a rotational force from the main assembly drive transmission member,

(ii - vi) a second drive transmission member rotatable about the rotation axis and capable of connecting with said first drive transmission member and transmitting the rotational force to said developing roller , and

(ii - vii) a disconnecting mechanism for disconnecting between said first drive transmission member and said second drive transmission member in accordance with rotation of the developing device frame from the contacting position to said spacing position.

CLAIMS

The invention claimed is:

1. A process cartridge comprising:

a photosensitive member;

a photosensitive member frame rotatably supporting the photosensitive member;

a developing roller for developing a latent image formed on the photosensitive member;

a developing device frame rotatably supporting the developing roller, the developing device frame being rotatably connected to the photosensitive member frame so that the developing device frame can rotate relative to the photosensitive member frame about a rotation axis, the developing device frame being rotatable between a contacting position in which the developing roller is in contact with the photosensitive member and a spaced position in which the developing roller is spaced from the photosensitive member;

a first drive transmission member rotatable about the rotation axis and capable of receiving a rotational force;

a second drive transmission member rotatable about the rotation axis and capable of connecting with the first drive transmission member and transmitting the rotational force from the first drive transmission member to the developing roller; and

a disconnecting mechanism configured to disconnect the first drive transmission member and the second drive transmission member in accordance with rotation of the developing device frame from the contacting position to the spaced position.

2. A process cartridge according to claim 1, wherein the disconnecting mechanism is configured to disconnect the first drive transmission member and the second drive transmission member by moving the second drive transmission member along the rotation axis in accordance with rotation of the developing device frame from the contacting position to the spaced position.

3. A process cartridge according to claim 1 or 2, wherein the disconnecting mechanism includes a guide portion for moving the second drive transmission member along the rotation axis.

4. A process cartridge according to claim 3, wherein the guide portion is provided on the developing device frame.

5. A process cartridge according to claim 1 or 2, wherein the disconnecting mechanism includes a coupling disconnection member that is movable in a direction substantially parallel to the rotation axis, and the coupling disconnection member is configured to urge the second drive transmission member to separate from the first drive transmission member in accordance with the rotation of the developing device frame from the contacting position to the spaced position.

6. A process cartridge according to claim 5, wherein the disconnecting mechanism includes a guide portion for moving the coupling disconnection member substantially parallel to the rotation axis.

7. A process cartridge according to claim 6, wherein the guide portion is provided on the developing device frame.

8. A process cartridge according to claim 6, wherein the guide portion is provided on the photosensitive member frame.

9. A process cartridge according to claim 5, wherein the disconnecting mechanism includes an urging member for urging the coupling disconnection member in accordance with the rotation of the developing device frame from the contacting position to the spaced position.

10. A process cartridge according to claim 9, wherein the urging member is movably provided on the developing device frame, and is movable relative to the developing device frame by receiving a force from the photosensitive member frame in accordance with the rotation of the developing device frame from the contacting position to the spaced position.

11. A process cartridge according to claim 10, wherein the urging member is rotatable relative to the developing device frame about the rotation axis.

12. A process cartridge according to claim 9, wherein the urging member is provided on the photosensitive member frame.

13. A process cartridge according to claim 12, wherein the urging member is fixed to the photosensitive member frame.

14. A process cartridge according to claim 1, wherein the disconnecting mechanism is configured to disconnect the first drive transmission member and the second drive transmission member by moving the first transmission member along the rotation axis in accordance with the rotation of the developing device frame from the contacting position to the spaced position.

15. A process cartridge according to claim 1, wherein the first drive transmission member is provided with a first coupling portion and the second drive transmission member is provided with a second coupling portion, and

wherein the rotational force is transmitted from the first drive transmission member to the second drive transmission member by engagement between the first coupling portion and the second coupling portion.

16. A process cartridge according to claim 15, wherein the first coupling portion and the second coupling portion include respective projected portions.

17. A process cartridge according to claim 15, wherein the first coupling portion and the second coupling portion have claw-like or rib-like shapes.

18. A process cartridge according to claim 15, wherein the first drive transmission member includes a plurality of such first coupling portions, and the second drive transmission member includes a plurality of such second coupling portions.

19. A process cartridge according to claim 18, wherein the first drive transmission member includes two to nine of such first coupling portions.

20. A process cartridge according to claim 18, wherein the first coupling portions are disposed at regular intervals.

21. A process cartridge according to claim 18, wherein the second coupling portions are disposed at regular intervals.

22. A process cartridge according to claim 15, wherein a contacting portion of at least one of the first coupling portion and the second coupling portion is inclined relative to a rotational axis direction of the first drive transmission member.

23. A process cartridge according to claim 22, wherein contacting portions of the first coupling portion and the second coupling portion are inclined relative to a rotational axis direction of the first drive transmission member.

24. A process cartridge according to claim 15, wherein, when the first drive transmission member and the second drive transmission member are disconnected from each other, the first coupling portion and the second coupling portion are separated from each other.

25. A process cartridge according to claim 1, wherein the first drive transmission member includes a gear portion.

26. A process cartridge according to claim 1, wherein the first drive transmission member includes a drive input portion for receiving the rotational force from a source external to the process cartridge.

27. A process cartridge according to claim 1, wherein the second drive transmission member includes a gear portion.

28. A process cartridge according to claim 1, further comprising a transmission gear operably connected to the developing roller,

wherein at least a part of the second drive transmission member is provided inside of the transmission gear.

29. A process cartridge according to claim 1, wherein the disconnecting mechanism includes a coupling disconnection member configured to disconnect the first drive transmission member and the second drive transmission member.

30. A process cartridge according to claim 29, wherein the coupling disconnection member is configured to urge the first drive transmission member.

31. A process cartridge according to claim 29, wherein the coupling disconnection member is configured to urge the second drive transmission member.

32. A process cartridge according to claim 29, wherein the coupling disconnection member is movable in a direction substantially parallel to the rotation axis.

33. A process cartridge according to claim 32, further comprising a guide portion configured to guide a guided portion of the coupling disconnection member in a direction substantially parallel to the rotation axis.

34. A process cartridge according to claim 33, wherein the guide portion and the guided portion extend substantially parallel to the rotation axis.

35. A process cartridge according to claim 29, wherein movement of the coupling disconnection member causes the first drive transmission member or the second drive transmission member to move along the rotation axis.

36. A process cartridge according to claim **29**, wherein the coupling disconnection member includes a portion having a substantially ring configuration.

37. A process cartridge according to claim **29**, wherein the coupling disconnection member engages with the photosensitive member frame.

38. A process cartridge according to claim **29**, wherein the coupling disconnection member is a cam.

39. A process cartridge according to claim **29**, wherein the disconnecting mechanism includes an urging member for urging the coupling disconnection member in accordance with the rotation of the developing device frame from the contacting position to the spaced position.

40. A process cartridge according to claim **39**, wherein the urging member is rotatably provided on the developing device frame.

41. A process cartridge according to claim **40**, wherein the urging member engages with the photosensitive member frame.

42. A process cartridge according to claim **40**, wherein the urging member is a cam.

43. A process cartridge according to claim **29**, wherein in a state that first drive transmission member and the second drive transmission member are disconnected, the second drive transmission member and the first drive transmission member are directly engaged with each other along the rotation axis.

44. A process cartridge according to claim **1**, wherein one of the first drive transmission member and the second drive transmission member includes a shaft portion, and the other of the first drive transmission member and the second drive transmission member includes a hole portion configured to engage the shaft portion.

45. A process cartridge according to claim **1**, further comprising a third drive transmission member configured to transmit the rotational force received from the second drive transmission member to the developing roller.

46. A process cartridge according to claim **45**, wherein the third drive transmission member movably supports the second drive transmission member so that the second drive transmission member is capable of moving away from the first drive transmission member.

47. A process cartridge according to claim 45, wherein the third drive transmission member has a substantially cylindrical shape, and at least a part of the second drive transmission member is provided inside of the third drive transmission member.

48. A process cartridge according to claim 45, wherein the second drive transmission member is reciprocable relative to the third drive transmission member.

49. A process cartridge according to claim 45, wherein the third drive transmission member includes a shaft portion, and the second drive transmission member is provided with a hole portion, and wherein the second drive transmission member is movable along the shaft portion in a state that the shaft portion engages with the hole portion.

50. A process cartridge according to claim 45, wherein the third drive transmission member is configure to receive the rotational force from the second drive transmission member through engagement between the shaft portion and the hole portion.

51. A process cartridge according to claim 45, wherein the shaft portion is provided at each of a plurality of positions around the rotation axis, and the hole portion is provided at each of a plurality of positions around the rotation axis.

52. A process cartridge according to claim 45, further comprising an elastic member provided between the second drive transmission member and the third drive transmission member.

53. A process cartridge according to claim 45, wherein the third drive transmission member includes a gear portion, at an outer periphery of the third drive transmission member, for transmitting the rotational force to the developing roller.

54. A process cartridge according to claim 1, further comprising an elastic member configured to urge the second drive transmission member toward the first drive transmission member.

55. A process cartridge according to claim 54, wherein the coupling disconnection mechanism moves the second drive transmission member against an elastic force of the elastic member in accordance with the rotation of the developing device frame from the contacting position to the spaced position.

56. A process cartridge according to claim 1, further comprising an elastic member configured to urge the first drive transmission member toward the second drive transmission member.

57. A process cartridge according to claim **56**, wherein the coupling disconnection mechanism moves the first drive transmission member against an elastic force of the elastic member in accordance with the rotation of the developing device frame from the contacting position to the spaced position.

58. An electrophotographic image forming apparatus for forming an image on a recording material, the electrophotographic image forming apparatus comprising:

(i) a main assembly including a main assembly drive transmission member for transmitting a rotational force; and

(ii) a process cartridge detachably mountable to the main assembly, the process cartridge including,

(ii-i) a photosensitive member,

(ii-ii) a photosensitive member frame rotatably supporting the photosensitive member,

(ii-iii) a developing roller for developing a latent image formed on the photosensitive member,

(ii-iv) a developing device frame rotatably supporting the developing roller, the developing device frame being rotatably connected to the photosensitive member frame so that the developing device frame can rotate relative to the photosensitive member frame about a rotation axis, the developing device frame being rotatable between a contacting position in which the developing roller is in contact with the photosensitive member and a spaced position in which the developing roller is spaced from the photosensitive member;

(ii-v) a first drive transmission member rotatable about the rotation axis and capable of receiving the rotational force from the main assembly drive transmission member;

(ii-vi) a second drive transmission member rotatable about the rotation axis and capable of connecting with the first drive transmission member and transmitting the rotational force from the first drive transmission member to the developing roller, and

(ii-vii) a disconnecting mechanism configured to disconnect the first drive transmission member and the second drive transmission member in accordance with rotation of the developing device frame from the contacting position to the spaced position.