CLAIMS

[1] A cleaning robot comprising:

a main body housing whose lower surface is provided with a suction opening and whose upper surface is provided with an air exhaling opening, and which moves by itself on a floor surface;

an electric fan that is disposed in the main body housing; and

a dust collection portion that collects dust in an air flow sucked from the suction opening by driving of the electric fan, wherein

the air flow, from which the dust is removed, is exhaled upward from the air exhaling opening.

[2] The cleaning robot according to claim 1, wherein

the air exhaling opening is disposed through a front portion of the main body housing that is situated in front in a moving direction during a cleaning time, and the air flow is exhaled obliquely backward from the air exhaling opening.

[3] The cleaning robot according to claim 2, wherein

the dust collection portion is provided, through a front surface thereof, with a flow-in opening for the air flow that communicates with the suction opening and a flow-out opening for the air flow that communicates with the electric fan, wherein

the suction opening, the electric fan and the air exhaling opening are disposed in front of the dust collection portion.

[4] The cleaning robot according to any one of claim 1 to claim 3, further comprising

an ion generation apparatus for emitting ions that is disposed in a flow path between the electric fan and the air exhaling opening.

[5] The cleaning robot according to claim 4, further comprising:

a charge stand to which the main body housing returns to charge a battery disposed in the main body housing, wherein an air flow containing the ions is able to be sent out from the air exhaling opening toward the charge stand by driving of the ion generation apparatus and electric fan in a returning state of the main body housing.

CLAIMS

[**Claim 1**] A cleaning robot comprising:

a main body housing whose lower surface is provided with a suction opening and whose upper surface is provided with an air exhaling opening, and which moves by itself on a floor surface;

an electric fan that is disposed in the main body housing; and

a dust collection portion that collects dust in an air flow sucked from the suction opening by driving of the electric fan, wherein

the air exhaling opening is disposed through a front portion of the main body housing that is situated in front in a moving direction during a cleaning time, and the air flow, from which the dust is removed, is exhaled upward and obliquely backward from the air exhaling opening.

[**Claim 2**] The cleaning robot according to claim 1, wherein

the dust collection portion is provided, through a front surface thereof, with a flow-in opening for the air flow that communicates with the suction opening and a flow-out opening for the air flow that communicates with the electric fan, wherein

the suction opening, the electric fan and the air exhaling opening are disposed in front of the dust collection portion.

[**Claim 3**] The cleaning robot according to claim 1 or claim 2, further comprising

an ion generation apparatus for emitting ions that is disposed in a flow path between the electric fan and the air exhaling opening.

[**Claim 4**] The cleaning robot according to claim 3, further comprising:

a charge stand to which the main body housing returns to charge a battery disposed in the main body housing, wherein an air flow containing the ions is able to be sent out from the air exhaling opening toward the charge stand by driving of the ion generation apparatus and

electric fan in a returning state of the main body housing.