the same diameter as the maximum diameter of the third tapered portion 23e so as to be continuous with the third tapered portion 23e. This embodiment is merely an example and the number of steps of the stepped shape may be changed as appropriate.

[0033] The valve member 31 is structured so as to slide along with the depression of the operation portion 30. While the valve member 31 is pushed in the protruding direction by the valve member pushing member 36 under natural conditions, when the operation portion 30 is depressed against the pushing force of the valve member pushing member 36, the valve member 31 moves in the direction that opens the pipe line 23. In the present embodiment, the tip sealing member 32 formed of an O ring or the like is attached to the tip of the valve member 31, and under natural conditions, the pipe line 23 is closed by this tip sealing member 32 abutting on the throttle portion 23a. When the valve member 31 moves in the direction that opens the pipe line 23, a clearance occurs between the tip sealing member 32 and the throttle portion 23a, and by this clearance, the flow amount of the air in the pipe line 23 is controlled. Then, when the valve member 31 opens the pipe line 23, air is released from the air outlet 40, and air is jetted out of the nozzle 17b. In the present embodiment, it is unnecessary to dispose the duster pipe arrangement 42 inside the housing since the valve member 31 and the air outlet 40 are disposed in the pushing direction of the operation portion 30.

[0034] According to this structure, since the flow channel area can be stepwisely adjusted by the stepped shape, even when the pressure difference between in front of and behind the throttle portion 23a becomes small by operating the operation portion 30 to a certain extent and the pressure to jet out the air decreases, the decrease in the pressure can be compensated by the increase in the flow channel area, so that the relationship between the operation amount of the operation portion 30 and the amount of air jetted out of the nozzle 17b can be made close to a proportional relationship.

[0035] That is, according to the present embodiment, as shown in FIG. 13B, when the tip sealing member 32 is moving in a position facing a tapered portion, the amount of clearance between the tip sealing member 32 and the throttle portion 23a increases little by little, whereas as shown in FIGS. 13C, 13D and 13E, when the tip sealing member 32 faces a parallel portion, the amount of clearance between the tip sealing member 32 and the throttle portion 23a does not change. For this reason, by adjusting the intervals and the diameters of the tapered portions and the parallel portions, the relationship between the operation amount of the operation portion 30 and the flow channel area can be easily set and changed. For this reason, even when the pressure difference between in front of and behind the throttle portion 23a becomes small by operating the operation portion 30 to a certain extent and the pressure to jet out the air decreases, the decrease in the pressure can be compensated by the increase in the flow channel area, so that as shown in FIG. 14, the relationship between the operation amount of the operation portion 30 and the amount of air jetted out of the nozzle 17b can be made close to a proportional relationship.

[0036] Moreover, by stepwisely adjusting the flow channel area, it is made easy to keep constant the amount of air jetted out of the nozzle 17b. For example, as shown in FIG. 13C, in a range where the tip sealing member 32 faces the first parallel portion 23f, as shown at S1 in FIG. 14, even if the operation amount of the operation portion 30 changes in some degree, the amount of air jetted out of the nozzle 17b is kept substantially constant. Likewise, as shown in FIG. 13D, in a range where the tip sealing member 32 faces the second parallel portion 23g, as shown at S2 in FIG. 14, even if the operation amount of the operation portion 30 changes in some degree, the amount of air jetted out of the nozzle 17b is kept substantially constant. Moreover, as shown in FIG. 13E, when the tip sealing member 32 is operated to a position where the tip sealing member 32 faces the third parallel portion 23h (to the bottom dead point), as shown at S3 in FIG. 14, the amount of air jetted out of the nozzle 17b is stabilized.

[0037] As described above, by making it possible to keep substantially constant the amount of air jetted out of the nozzle 17b even if the operation amount of the operation portion 30 changes in some degree, the amount of air jetted out of the nozzle 17b can be kept constant without the user continuing to apply a constant force to the operation portion 30. For example, even in a situation where it is difficult to continue applying a constant force to the operation portion 30 such as a situation where the user uses the machine while shaking the nozzle 17b under a condition where he/she is holding the machine, the amount of air jetted out of the nozzle 17b can be kept constant.

(Third embodiment)

[0038] A third embodiment of the present invention will be described with reference to FIGS. 15 to 19. Since the present embodiment is different from the first embodiment only in the structure of the flow amount adjustment mechanism, overlapping descriptions are avoided and only the flow amount adjustment mechanism will be described.

[0039] The flow amount adjustment mechanism according to the present embodiment is for adjusting the amount of air jetted out of the nozzle 17b, and as shown in FIG. 15, is provided with the pipe line formation portion 20 forming the pipe line 23 for circulating air, the valve member 31 disposed within the pipe line 23 and movable, the operation portion 30 disposed on the tip of the valve member 31 so as to be operable, the valve member pushing member 36 that pushes the valve member 31 in the protruding direction, and a sealing member 37 that abuts the valve member 31 to seal the air. Into this flow amount adjustment mechanism, the compressed air can be in-