

2) The flat surfaces 32 are able to be inclined relative to the horizontal plane when offset pressure is applied by the FOUP 28. Therefore, when the surfaces of the gas introduction holes 28 are not horizontal, the flat surfaces 32 and the gas introduction holes 28 are fitted each other, so that purge gas is prevented from leaking.

3) The nozzles 8 and 9 are biased upward and are able to move up and down and to incline (rotate about a horizontal axis). Therefore, when the height of the nozzles 8 and 9 vary, or the depth of the nozzle receivers 25, i.e., the height of the gas introduction holes 28 vary for example, the flat surfaces 32 are brought into close contact with the gas introduction holes 28.

4) A portion of the weight of the FOUP 20 is applied to the nozzles 8 and 9, and, with about the same force, the flat surfaces 32 are biased toward the gas introduction holes 28. Therefore, the flat surfaces 32 and the gas introduction holes 28 are reliably brought into contact with.

5) The above functions are achieved by means of the guide surfaces 30, the flat surfaces 32, the screw shafts 37, and the springs 38, and an actuator is not required. [0027] In the embodiment, the upper surface of each pedestal 33 is located on the bottom surface side of the base 5. Conversely, the bottom surface of each pedestal 33 may be supported by the upper surface of the base 5 with an elastic member such as a spacer therebetween. The range of movement of the nozzles 8 may be limited by means of fixing members such as screws or pins, and each pedestal 33 may be biased upward by the elastic member. In this case, as well, the elastic members that support the nozzles 8 deform in response to the offset load applied to the flat surfaces 32, and the flat surfaces 32 are brought into close contact with the gas introduction holes of the FOUP.

[0028] According to the embodiment, with respect to the nozzles 8 and 9, the pedestal 33 is supported by springs 38 at plural positions so that the flat surface 32 inclines relative to the horizontal plane according to the gas introduction hole 28. FIG. 5

shows a nozzle 50 according to a modification in which support of the pedestal is simplified. Reference numeral 51 indicates a guide surface, reference numeral 52 indicates a flat surface, and they are respectively the same as the guide surface 30 and the flat surface 32 shown in FIGS. 3 and 4. Reference numeral 54 indicates a hollow shaft, reference numeral 56 indicates a pedestal, and reference numeral 57 indicates a spring, which may be an elastic member such as a cylindrical rubber. Reference numeral 58 indicates an elastic spacer, which is located between the base 5 and the nozzle 58 and is compressed due to the elastic force by the spring 57. Note that the nozzle 50 may be a nozzle for purge gas introduction or a nozzle for purge gas discharge.

[0029] The FOUP is guided by the guide surface 51 and the flat surface 52 is brought into close contact with the gas introduction hole of the FOUP, similarly to the embodiment. If the flat surface 52 is brought into non-uniform contact with the gas introduction hole, the elastic spacer 58 deforms, the nozzle 50 swings, and thus the flat surface 52 is brought into close contact with the gas introduction hole. Therefore, although the nozzle 50 is supported by the spring 57 at one position, the flat surface 52 is able to be inclined relative to the horizontal plane so as to be brought into close contact with the gas introduction hole.

[0030] FIG. 6 shows a nozzle 60 according to a second modification that is applicable to both the purge gas introduction nozzle and the purge gas discharge nozzle.

Reference numeral 61 indicates a guide surface, and reference numeral 62 indicates a ring-shaped elastic gasket made of synthetic rubber or the like, which is fitted into a tip portion of the nozzle 60 made of metal, for example. The upper surface of the gasket 62 has a flat surface 63. Reference numeral 65 indicates a pedestal fixed to the base 5 with screws 66 or the like, for example. Preferably, the guide surface 61 is smooth and hard, has a low friction, and emits little outgas, similarly to the embodiment.

Preferably, the gasket 62 is configured to have excellent sealing properties between the

2) The flat surfaces 32 are able to be inclined relative to the horizontal plane when offset pressure is applied by the FOUP 20. Therefore, when the surfaces of the gas introduction holes 28 are not horizontal, the flat surfaces 32 and the gas introduction holes 28 are fitted each other, so that purge gas is prevented from leaking.

3) The nozzles 8 and 9 are biased upward and are able to move up and down and to incline (rotate about a horizontal axis). Therefore, when the height of the nozzles 8 and 9 vary, or the depth of the nozzle receivers 25, i.e., the height of the gas introduction holes 28 vary for example, the flat surfaces 32 are brought into close contact with the gas introduction holes 28.

4) A portion of the weight of the FOUP 20 is applied to the nozzles 8 and 9, and, with about the same force, the flat surfaces 32 are biased toward the gas introduction holes 28. Therefore, the flat surfaces 32 and the gas introduction holes 28 are reliably brought into contact with.

5) The above functions are achieved by means of the guide surfaces 30, the flat surfaces 32, the screw shafts 37, and the springs 38, and an actuator is not required. [0027] In the embodiment, the upper surface of each pedestal 33 is located on the bottom surface side of the base 5. Conversely, the bottom surface of each pedestal 33 may be supported by the upper surface of the base 5 with an elastic member such as a spacer therebetween. The range of movement of the nozzles 8 may be limited by means of fixing members such as screws or pins, and each pedestal 33 may be biased upward by the elastic member. In this case, as well, the elastic members that support the nozzles 8 deform in response to the offset load applied to the flat surfaces 32, and the flat surfaces 32 are brought into close contact with the gas introduction holes of the FOUP.

[0028] According to the embodiment, with respect to the nozzles 8 and 9, the pedestal 33 is supported by springs 38 at plural positions so that the flat surface 32 inclines relative to the horizontal plane according to the gas introduction hole 28. FIG. 5

shows a nozzle 50 according to a modification in which support of the pedestal is simplified. Reference numeral 51 indicates a guide surface, reference numeral 52 indicates a flat surface, and they are respectively the same as the guide surface 30 and the flat surface 32 shown in FIGS. 3 and 4. Reference numeral 54 indicates a hollow shaft, reference numeral 56 indicates a pedestal, and reference numeral 57 indicates a spring, which may be an elastic member such as a cylindrical rubber. Reference numeral 58 indicates an elastic spacer, which is located between the base 5 and the nozzle 50 and is compressed due to the elastic force by the spring 57. Note that the nozzle 50 may be a nozzle for purge gas introduction or a nozzle for purge gas discharge.

[0029] The FOUP is guided by the guide surface 51 and the flat surface 52 is brought into close contact with the gas introduction hole of the FOUP, similarly to the embodiment. If the flat surface 52 is brought into non-uniform contact with the gas introduction hole, the elastic spacer 58 deforms, the nozzle 50 swings, and thus the flat surface 52 is brought into close contact with the gas introduction hole. Therefore, although the nozzle 50 is supported by the spring 57 at one position, the flat surface 52 is able to be inclined relative to the horizontal plane so as to be brought into close contact with the gas introduction hole.

[0030] FIG. 6 shows a nozzle 60 according to a second modification that is applicable to both the purge gas introduction nozzle and the purge gas discharge nozzle.

Reference numeral 61 indicates a guide surface, and reference numeral 62 indicates a ring-shaped elastic gasket made of synthetic rubber or the like, which is fitted into a tip portion of the nozzle 60 made of metal, for example. The upper surface of the gasket 62 has a flat surface 63. Reference numeral 65 indicates a pedestal fixed to the base 5 with screws 66 or the like, for example. Preferably, the guide surface 61 is smooth and hard, has a low friction, and emits little outgas, similarly to the embodiment.

Preferably, the gasket 62 is configured to have excellent sealing properties between the