WHAT IS CLAIMED IS:

1. An apparatus for improving breath quality during sleep, characterized in that the apparatus comprises:

a negative pressure source;

an oral interface being placed within the oral cavity of a user in order to provide a fluid passage in the oral cavity of the user;

a reservoir for collecting saliva of the user;

a communicating tube having a first open end portion and a second open end portion, wherein the first open end portion is communicated to the oral interface, and the second open end portion is communicated with the reservoir and the negative pressure source in order to create a negative pressure path between the oral cavity of the user and the negative pressure source; and

a fluid adjuster having a first connecting end and a second connecting end, the fluid adjuster being used to restrict all fluids to flow to the second connecting end, the first connecting end being communicated to the fluid passage of the oral interface.

2. The apparatus of Claim 1, characterized in that the fluid adjuster comprises a tri-way connector, a first one-way valve, and a second one-way valve, the tri-way connector having the first connecting end, the second connecting end, and a third connecting end, the first one-way valve being disposed at the first connecting end to restrict the fluid to flowing to the second connecting end, and the second one-way valve being disposed at the third connecting end to restrict the ambient air to flowing into the communicating tube from the second one-way valve and the second connecting end, contributing to having the saliva staying in the communicating tube flow to the reservoir.

3. The apparatus of Claim 1, characterized in that the fluid adjuster comprises a tri-way connector, a first one-way valve, a second one-way valve, and a vacuum actuated pressure relief valve, the tri-way connector having the first connecting end, the second connecting end, and a third connecting end, the first one-way valve being disposed at the first connecting end to restrict the fluid to flowing to the second connecting end, the second one-way valve being disposed at the third connecting end, and the vacuum actuated pressure relief valve being combined with the second one-way valve to turn on the vacuum actuated pressure relief valve to let in the ambient air at a predetermined negative pressure value, and to restrict the ambient air to flowing from the second one-way valve and the second connecting end to the communicating tube to contribute to having the saliva staying in the communicating tube flow to the reservoir

4. The apparatus of Claim 3, characterized in that the vacuum actuated pressure relief valve includes a main body, a propelling valve, a spring, and a spring seat, wherein a spacer having a passage is disposed inside the main body to section the main body area into a first chamber and a second chamber, the first chamber is communicated with the ambient air, the second chamber is communicated with the second one-way valve, and the propelling valve is movably arranged in the first chamber and go through the passage, the space of the passage is completely occupied by the propelling valve to allow the fluid in the first chamber to be isolated from the second chamber under the condition that the vacuum actuated pressure relief valve is not activated; the spring seat is arranged on a surface of the spacer in the first chamber, and the spring rests between the propelling valve and the spring seat.

5. The apparatus of Claim 1, characterized in that the reservoir is communicated to the second open end portion of the communicating tube, and the negative pressure source is communicated to the reservoir.

6. The apparatus of Claim 1, characterized in that the negative pressure source is communicated to the second open end portion of the communicating tube, and the reservoir is communicated to the negative pressure source.

7. The apparatus of Claim 5 or 6, characterized in that the apparatus further includes:

a control unit;

a timer, which is started to time/stop timing by the control unit; and

a pressure sensor for measuring the pressure inside the reservoir and transmitting a measured pressure value to the control unit;

wherein after the timer is started to time to a set time interval and sends out a notifying signal to the control unit, the control unit is then notified to read the pressure value transmitted by the pressure sensor.

8. The apparatus of Claim 7, characterized in that the control unit has a built-in correspondence table showing the pressure-liquid capacity in the reservoir corresponding to the set time interval timed by the timer, to determine the liquid capacity inside the reservoir according to the pressure value and the correspondence table of the pressure-liquid capacity in the reservoir.

9. An apparatus for improving breath quality during sleep, characterized in that the apparatus comprises:

an oral interface placed within the oral cavity of a user, in order to provide at least one fluid passage in the oral cavity of the user, the oral interface having an extending part protruding outside the oral cavity of the user, the extending part having a first fluid passage and a second fluid passage, both communicated with the oral cavity of the user; a vacuum actuated pressure relief valve being configured at one end of the first fluid passage outside the oral cavity of the user; a communicating tube having a first

open end portion and a second open end portion; the first open end portion being communicated with the second fluid passage in the oral interface appliance; a second open end portion being communicated with a reservoir and a negative pressure source in order to create a negative pressure path between the oral cavity of the user and the negative pressure source, wherein

the vacuum actuated pressure relief valve is switched on at a predetermined negative pressure value to allow the ambient air to flow into the oral cavity of the user through the first fluid passage and carry the saliva in the oral cavity and that staying in the communicating tube into the reservoir by means of pumping the airflow through the negative pressure path.

10. The apparatus of Claim 9, characterized in that: the extending portion of the oral interface appliance has a third fluid passage communicated with the inside of the oral cavity of the user; a one-way valve is arranged at one end of the third fluid passage outside the oral cavity in order to restrict the air inside the oral cavity to flowing outside.

11. The apparatus of Claim 9, characterized in that: the vacuum actuated pressure relief valve includes a main body, a propelling valve, a spring, and a spring seat, wherein a spacer having a passage is disposed inside the main body to section the main body area into a first chamber and a second chamber, the first chamber is communicated with the ambient air, the second chamber is communicated with the first fluid passage, the propelling valve is movably arranged in the first chamber and go through the passage, the space of the passage is completely occupied by the propelling valve to allow the fluid in the first chamber to be isolated from the second chamber under the condition that the vacuum actuated pressure relief valve is not activated; the spring seat is arranged on a surface of the spacer in the first chamber, and the spring rests between the propelling valve and the spring seat

12. The apparatus of Claim 9, characterized in that the apparatus further comprises an adjustable flow blocker disposed in the first fluid passage to regulate the flow resistance in the first fluid passage.

13. The apparatus of Claim 12, characterized in that the adjustable flow blocker is a movable block, the movable block having one end portion protruding out of the extending part for hand-holding and moving the block to regulate the flow resistance of the first fluid passage.

14. The apparatus of Claim 12, characterized in that the adjustable flow blocker is a rotatable hollow tube, which has an open hollow passage communicated with the first fluid passage, and one end portion of the rotatable hollow tube protrudes out of the extending part for hand-holding the hollow tube to regulate the flow resistance in the first fluid passage.

15. The apparatus of Claim 9, characterized in that the apparatus also includes the reservoir and the negative pressure source, the reservoir being communicated with the second open end portion of the communicating tube, the negative pressure source being communicated with the reservoir.

16. The apparatus of Claim 9, characterized in that the apparatus also includes the reservoir and the negative pressure source, the negative pressure source being communicated with the second open end of the communicating tube, and the reservoir being communicated with the negative pressure source.

17. The apparatus of Claim 15 or 16, characterized in that the apparatus further includes:

a control unit;

a timer, which is started to time/stop timing by the control unit; and

a pressure sensor for measuring the pressure inside the reservoir and transmitting a measured pressure value to the control unit;

wherein after the timer is started to time to a set time interval and sends out a notifying signal to the control unit, the control unit is then notified to read the pressure value transmitted by the pressure sensor.

18. The apparatus of Claim 17, characterized in that the control unit has a built-in correspondence table showing the pressure-liquid capacity in the reservoir corresponding to the set time interval timed by the timer, to determine the liquid capacity inside the reservoir according to the pressure value and the correspondence table of the pressure-liquid capacity in the reservoir.

19. The apparatus of Claim 1, characterized in that the oral interface further includes:

a flexible shield being positioned between a user's lips and teeth;

an extending part being formed at one side of the flexible shield and protruding outside the oral cavity of the user; and

a flexible fluid tube passing through the flexible shield and the extending part, the flexible fluid tube having a first open end portion and an opposite second open end portion, the first open end portion extending and protruding outside the oral cavity of the user and being communicated with a negative pressure source, the second open end portion being positioned between the user's tongue and upper palate.

20. The oral interface of Claim 19, characterized in that the flexible shield having at least a one-way valve used to restrict the air in the oral cavity of the user to flow from the one-way valve out of the oral cavity.

21. The oral interface of Claim 20, characterized in that the flexible fluid tube has at least one through-hole being positioned nearby the flexible shield, the through-hole

being communicated with one side of the fluid tube and used to be communicated with the front region inside the oral cavity of the user.

22. The apparatus of Claim 9, characterized in that, the oral interface further comprises:

a flexible shield being positioned between a user's lips and teeth,

an extending part being formed at one side of the flexible shield and protruding outside the oral cavity of the user; and

a flexible fluid tube passing through the flexible shield and the extending part, the flexible fluid tube having a first open end portion and an opposite second open end portion, the first open end portion extending and protruding outside the oral cavity of the user and being communicated with a negative pressure source, the second open end portion being positioned between the user's tongue and upper palate, wherein

the extending part has a first fluid passage and a second fluid passage, formed respectively on opposite sides of the flexible fluid tube and communicated to the inside of the oral cavity of the user.

23. The oral interface of Claim 22, characterized in that a one-way valve being arranged at a far end of at least one of the first fluid passage and the second fluid passage away from the oral cavity of the user in order to restrict the air inside the oral cavity of the user to flow outside through the one-way valve.

24. The oral interface of Claim 23, characterized in that a one-way valve is arranged at a far end away from the oral cavity of the user and a vacuum actuated pressure relief valve is arranged at a far end of the second fluid passage away from the oral cavity of the user.

25. The oral interface of Claim 24, characterized in that the vacuum actuated pressure relief valve includes a main body, a propelling valve, a spring, and a spring

seat, wherein a spacer having a passage is disposed inside the main body to section the main body area into a first chamber and a second chamber, the first chamber is communicated with the ambient air, the second chamber is communicated with the second fluid passage, and the propelling valve is movably arranged in the first chamber and go through the passage, the space of the passage is completely occupied by the propelling valve to allow the fluid in the first chamber to flow to the second chamber under the condition that the vacuum actuated pressure relief valve is not activated; the spring seat is arranged on a surface of the spacer in the first chamber, and the spring rests between the propelling valve and the spring seat.

26. The oral interface of Claim 25, characterized in that the oral interface further includes an adjustable flow blocker disposed in the second fluid passage to regulate the flow resistance in the second fluid passage.

27. The oral interface of Claim 26, characterized in that the adjustable flow blocker is a movable block having one end portion protruding out of the extending part for hand-holding and moving the block to regulate the flow resistance in the second fluid passage.

28. The oral interface of Claim 26, characterized in that the adjustable flow blocker is a rotatable hollow tube having one end portion protruding outside of the extending part for hand-holding and rotating the hollow tube to regulate the flow resistance in the second fluid passage.