WHAT IS CLAIMED IS:

1. A liquid feed device, comprising:

a support substrate; and

an intermediate member provided on the support substrate, a valve and a flow channel of fluid being formed by the intermediate member, the valve communicating with the flow channel, the valve including an outer edge portion and a gap, the gap being provided between the outer edge portion and the support substrate, the valve being capable of opening and closing the gap by the outer edge portion being pressed and released, wherein,

~~a configuration of the outer edge portion~~ when projected onto a plane perpendicular to a direction of the flow channel, a configuration of the outer edge portion is~~being~~ a protruding configuration having a curved surface and the valve comprises a portion of the intermediate member which is positioned under~~, the configuration of~~ the outer edge portion and contacts the support substrate~~being symmetric with respect to the direction of the flow channel~~.

2. The device according to claim 1, wherein the configuration of the outer edge portion when projected onto the plane perpendicular to the direction of the flow channel has line symmetry with respect to a straight line passing through a center of the gap.

3. The device according to claim 1 or 2, wherein the configuration of the outer edge portion when projected onto the plane perpendicular to the direction of the flow channel is a semicircular configuration.

4. The device according to any one of claims 1 to 3, wherein the gap has a semicircular configuration when projected onto the plane perpendicular to the direction of the flow channel.

5. The device according to any one of claims 1 to 3, wherein the gap has a polygonal configuration when projected onto the plane perpendicular to the direction of the flow channel.

6. The device according to claim 5, wherein the gap has a triangular configuration when projected onto the plane perpendicular to the direction of the flow channel.

7. The device according to any one of claims 1 to 6, wherein a configuration of the valve when projected onto a plane perpendicular to a direction from the support substrate toward the intermediate member has a circular configuration.

8. The device according to claim 7, wherein the valve has an elliptical configuration when projected onto the plane perpendicular to the direction from the support substrate toward the intermediate member.

9. The device according to any one of claims 1 to 8, wherein the intermediate member is an elastic body.

10. The device according to claim 9, wherein the elastic body has a loss coefficient of 0.1 or less.

~~11. A liquid feed device, comprising:~~

~~a support substrate; and~~

~~an intermediate member provided to have a gap interposed between the support substrate and the intermediate member, the gap passing and blocking a fluid, the intermediate member opening and closing the gap by an outer edge of the intermediate member being pressed,~~

~~a configuration of the outer edge when projected onto a plane parallel to a direction from the support substrate toward the intermediate member being a~~

~~protruding configuration having a curved surface and line symmetry with respect to a straight line passing through a center of the gap.~~

11~~12~~. A valve system comprising the liquid feed device of claim 1, further comprising:

~~a liquid feed part including a support substrate and an intermediate member provided on the support substrate, the intermediate member including a valve and a flow channel communicating with the valve, the valve opening and closing a gap by an outer edge portion of the valve being pressed; and~~

a pressing body pressing the outer edge portion~~,~~

~~a configuration of the outer edge portion when projected onto a plane perpendicular to a direction of the flow channel being a protruding configuration having a curved surface, the configuration of the outer edge portion being symmetric with respect to the direction of the flow channel~~.

12~~13~~. The system according to claim 11~~12~~, wherein the configuration of the outer edge portion when projected onto the plane perpendicular to the direction of the flow channel has line symmetry with respect to a straight line passing through a center of the gap.

13~~14~~. The system according to claim 11 or 12, wherein the configuration of the outer edge portion when projected onto the plane perpendicular to the direction of the flow channel is a semicircular configuration.

14~~15~~. The system according to any one of claims 11 to 13~~12~~, wherein the gap has a semicircular configuration when projected onto the plane perpendicular to the direction of the flow channel.

1516. The system according to any one of claims 11 to 1312, wherein the gap has a polygonal configuration when projected onto the plane perpendicular to the direction of the flow channel.

1617. The system according to any one of claims 11 to 1512, wherein the valve has a circular configuration when projected onto a plane perpendicular to a direction from the support substrate toward the intermediate member.

1718. The system according to claim 1617, wherein the valve has an elliptical configuration when projected onto the plane perpendicular to the direction from the support substrate toward the intermediate member.

1819. The system according to any one of claims 11 to 1712, wherein the intermediate member is an elastic body.

1920. The system according to claim 1819, wherein the elastic body has a loss coefficient of 0.1 or less.

20. The device according to claim 1, wherein a configuration of the outer edge portion is symmetric with respect to the direction of the flow channel.

21. The device according to claim 1, wherein

the valve is formed so that at least one portion of a side face of the valve includes the intermediate member,

the side face of the valve is formed by a protruding portion and a planar portion positioned around the protruding portion, the protruding portion being continuously formed with the planar portion, and

a height of the valve is larger than a height of the planar portion.

22. The system according to claim 11, wherein a configuration of the outer edge portion is symmetric with respect to the direction of the flow channel.

23. The system according to claim 11, wherein

the valve is formed so that at least one portion of a side face of the valve includes the intermediate member,

the side face of the valve is formed by a protruding portion and a planar portion positioned around the protruding portion, the protruding portion being continuously formed with the planar portion, and

a height of the valve is larger than a height of the planar portion.

24. The system according to claim 10, wherein the elastic body includes silicone rubber.

25. The system according to claim 19, wherein the elastic body includes silicone rubber.

26. The device according to claim 1, wherein

a configuration of the outer edge when projected onto a plane perpendicular to a direction from the support substrate toward the intermediate member being a protruding configuration having a curved surface and line symmetry with respect to a straight line passing through a center of the gap.