What is claimed is:

1. A workpiece supporting apparatus comprising:

a Bernoulli chuck configured to generate a suction force by emitting a gas; and

a liquid ejection member surrounding the Bernoulli chuck and configured to discharge a liquid around the Bernoulli chuck.

2. The workpiece supporting apparatus according to claim 1, wherein the liquid ejection member has a plurality of liquid ejecting openings arranged around the Bernoulli chuck.

3. The workpiece supporting apparatus according to claim 2, wherein the Bernoulli chuck includes a plurality of gas jet openings facing outward in radial directions of the Bernoulli chuck, and the plurality of gas jet openings are arranged to emit a gas radially.

4. The workpiece supporting apparatus according to claim 3, wherein the plurality of liquid ejecting openings are located on a plurality of straight lines extending from the center of the Bernoulli chuck through the plurality of gas jet openings when viewed from above the liquid ejection member.

5. The workpiece supporting apparatus according to claim 4, wherein the number of the plurality of gas jet openings is larger than the number of the plurality of liquid ejecting openings.

~~5~~6. The workpiece supporting apparatus according to claim 1, wherein the liquid ejection member includes a side wall surrounding the Bernoulli chuck, a bottom portion coupled to the side wall, and a liquid ejecting opening facing an outer surface of

the Bernoulli chuck, and the liquid ejecting opening is located such that when a liquid is discharged from the liquid ejecting opening, the liquid flows from a gap between the Bernoulli chuck and the liquid ejection member outwardly along a surface of the workpiece.

~~6~~7. The workpiece supporting apparatus according to claim ~~5~~ 6, wherein the liquid ejecting opening is located in the bottom portion.

~~7~~8. The workpiece supporting apparatus according to claim ~~5~~ 6, wherein the liquid ejecting opening is located in an inner surface of the side wall.

~~8~~9. The workpiece supporting apparatus according to any one of claims 1, 2, ~~5,~~ 6, ~~and~~ 7, and 8, wherein:

the Bernoulli chuck has a gas jet opening configured to emit the gas; and

the gas jet opening faces in a direction inclined with respect to a radial direction of the Bernoulli chuck when viewed from above the Bernoulli chuck to form a swirling flow of the gas.

~~9~~10. A workpiece processing apparatus comprising:

a processing head configured to process a workpiece; and

a workpiece supporting apparatus according to claim 1~~any one of claims 1 to 8~~, the workpiece supporting apparatus being configured to support the workpiece.

11. The workpiece processing apparatus according to claim 10, wherein

the processing head comprises a polishing head configured to bring a polishing tool into contact with the workpiece to polish the workpiece,

the workpiece supporting apparatus comprises a plurality of workpiece supporting apparatuses, and

the plurality of workpiece supporting apparatuses are arranged along the polishing tool.

~~10~~12. A workpiece transporting apparatus comprising:

a workpiece supporting apparatus according to claim 1~~any one of claims 1 to 8~~, the workpiece supporting apparatus being configured to support a workpiece; and

a moving device configured to move the workpiece supporting apparatus.

~~11~~13. A workpiece supporting method comprising:

supporting a workpiece by flow of gas, while sucking the workpiece by a suction force generated by emitting the gas from a Bernoulli chuck; and

discharging a liquid around the Bernoulli chuck from a liquid ejection member surrounding the Bernoulli chuck.

~~12~~14. The workpiece supporting method according to claim ~~11~~ 13, wherein the liquid flows outward along a surface of the workpiece from a plurality of liquid ejecting openings arranged around the Bernoulli chuck.

~~13~~15. The workpiece supporting method according to claim ~~12~~ 14, wherein the gas is emitted radially outwardly from a plurality of gas jet openings of the Bernoulli chuck.

~~14~~16. The workpiece supporting method according to claim ~~13~~ 15, wherein the plurality of liquid ejecting openings are located on a plurality of straight lines extending from the center of the Bernoulli chuck through the plurality of gas jet openings when viewed from above the liquid ejection member.

17. The workpiece supporting method according to claim 16, wherein the

number of the plurality of gas jet openings is larger than the number of the plurality of liquid ejecting openings.

~~15~~18. The workpiece supporting method according to claim ~~11~~ 13, wherein the liquid flows from a gap between the Bernoulli chuck and the liquid ejection member outwardly along a surface of the workpiece.

~~16~~19. The workpiece supporting method according to any one of claims ~~11~~ 13, ~~12~~14, and ~~15~~ 18, wherein the gas is emitted from a gas jet opening of the Bernoulli chuck to form a swirling flow.

~~17~~20. A workpiece processing method comprising:

supporting a workpiece by flow of gas, while sucking the workpiece by a suction force generated by emitting the gas from a Bernoulli chuck; and

discharging a liquid around the Bernoulli chuck from a liquid ejection member surrounding the Bernoulli chuck; and

processing a processing point of the workpiece, while supplying the liquid to the processing point of the workpiece.