What is claimed is:

1. A cutting apparatus comprising:

a holding table having a suction surface for suction holding a plate-shaped workpiece;

cutting means for cutting the workpiece suction held by the holding table by a cutting blade and cutting water, the cutting water being supplied to the workpiece while the cutting blade cuts the workpiece; and

suction force maintaining means for maintaining a suction force of the holding table for suction holding the workpiece,

wherein the suction force maintaining means includes: a first piping for communication of the suction surface with a first suction source; a branched pipe by which the first piping is branched in its course to an upper-side outlet for passage toward the first suction source and a lower-side outlet for passage toward a second suction source; and a second piping for communication of the lower-side outlet with the second suction source,

the first suction source and the second suction source are each an ejector, which includes: a supply port supplying air; a discharge port discharging the air; and a suction port communicating with a negative pressure generating part generating a negative pressure by causing the air to flow from the supply port to the discharge port,

a cross-sectional area of the branched pipe is set greater than a cross-sectional area of the first piping, such that flow velocity of a fluid upon transfer of the fluid from the first piping into the branched pipe is lowered due to a difference in cross-sectional area, a branched shape of the branched pipe ensures that a gas sucked in from the suction surface goes toward the upper-side outlet of the branched pipe, whereas a liquid sucked in from the suction surface goes down toward the lower-side outlet of the branched pipe, whereby the gas and the liquid are separated from each other, and the separated liquid is sucked by

the second suction source and discharged from the second piping, whereby the suction force applied at the suction surface by the first suction source is maintained.