WHAT IS CLAIMED IS:

1. A metal powder producing apparatus comprising:

a spray chamber;

a plurality of liquid nozzles causing molten metal stored in a crucible to flow down into the spray chamber;

a gas jet device provided with a plurality of liquid nozzle insertion holes into each of which respective of the plurality of liquid nozzles are inserted;

a first gas jet nozzle including a plurality of jet holes disposed in a bottom surface of the gas jet device in such a manner as to form first rings each around a corresponding one of the plurality of liquid nozzle insertion holes, the first gas jet nozzle jetting gas against molten metal flowing down through the liquid nozzles to pulverize the molten metal;

a second gas jet nozzle including a plurality of jet holes disposed in the bottom surface of the gas jet device in such a manner as to form second rings each on an outer side of a corresponding one of the first rings, the second gas jet nozzle jetting gas to prevent scatter of metal particles resulting from pulverization by the first gas jet nozzle; and

a third gas jet nozzle including a plurality of jet holes disposed in the bottom surface of the gas jet device in such a manner as to form a third ring on an outer side of the second gas jet nozzle, the third gas jet nozzle jetting

gas against an inner wall surface of the spray chamber, wherein

an axial direction of each of the jet holes of the third gas jet nozzle is set such that a gas jet direction is directed toward the inner wall surface of the spray chamber radially outward from a center of the third ring.

2. The metal powder producing apparatus according to claim 1, further comprising:

a fourth gas jet nozzle including a plurality of jet holes disposed at a predetermined height in the spray chamber, the fourth gas jet nozzle jetting gas along an inner wall surface of the spray chamber to generate, in the spray chamber, a swirling flow around a center axis of the spray chamber.

3. The metal powder producing apparatus according to claim 2, wherein

a plurality of the fourth gas jet nozzles are provided in a height direction in the spray chamber.

4. A gas jet device for a metal powder producing apparatus producing metal powder by jetting gas on a liquid, the gas jet device comprising:

a plurality of liquid nozzle insertion holes into which liquid nozzles causing molten metal to flow down into a spray chamber are inserted;

a first gas jet nozzle including a plurality of jet holes disposed in such a manner as to form first rings each around a corresponding one of the plurality of liquid nozzle insertion holes, the first gas jet nozzle jetting gas

against molten metal flowing down from the liquid nozzles to pulverize the molten metal;

a second gas jet nozzle including a plurality of jet holes disposed in such a manner as to form second rings each on an outer side of a corresponding one of the first rings, the second gas jet nozzle jetting gas to prevent scatter of metal particles resulting from pulverization by the first gas jet nozzle; and

a third gas jet nozzle including a plurality of jet holes disposed in such a manner as to form a third ring on an outer side of the second gas jet nozzle, the third gas jet nozzle jetting gas against an inner wall surface of the spray chamber, wherein

an axial direction of each of the jet holes of the third gas jet nozzle is set such that a gas jet direction is directed toward the inner wall surface of the spray chamber radially outward from a center of the third ring.