CLAIMS

1. A metal powder ~~production~~manufacturing apparatus comprising:

~~a first crucible capable of receiving a metal before melting;~~

a first crucible capable of accepting metal before melted;

a first heating device for heating ~~and melting~~ the metal in the first crucible to melt the metal;

a stopper ~~for opening~~that opens and ~~closing~~closes a first opening provided on a bottom ~~surface~~face of the first crucible;

an introduction pipe ~~having~~that has one end connected to the first opening of the first crucible~~,~~ and introduces the ~~introduction pipe guiding a~~ molten metal in the first crucible to an outside of the first crucible;

a second crucible ~~for receiving~~that accepts the molten metal flowing out ~~of~~from the introduction pipe;

a second heating device for heating the second crucible,

a ~~liquid~~molten metal nozzle provided on a bottom ~~surface~~face of the second crucible; and

a plurality of gas ~~jet~~injection nozzles ~~arranged~~that are provided around the ~~liquid~~molten metal nozzle and ~~jetting a~~inject gas fluid to the molten metal flowing down from the ~~liquid~~molten metal nozzle~~.~~, wherein

a height of a lowest portion having a lowest height in a flow path in the introduction pipe is lower than a height of the other end of the introduction pipe or same as the height of the other end of the introduction pipe.

2. The metal powder ~~production~~manufacturing apparatus according to claim 1, wherein

~~an~~the other end of the introduction pipe is connected to a second opening provided on either one of the bottom ~~surface~~face and a side ~~surface~~face of the second

crucible.

3. The metal powder ~~production~~manufacturing apparatus according to claim 2, wherein

the introduction pipe has a floating matter collecting wall protruding downward from an upper portion of an inner wall of a flow path of the introduction pipe.

4. The metal powder ~~production~~manufacturing apparatus according to claim ~~2~~1, wherein

~~a level of a lowest portion having a lowest level in the flow path in the introduction pipe is lower than a level of~~ the other end of the introduction pipe ~~connected to~~is open above the second ~~opening~~crucible.

5. The metal powder ~~production~~manufacturing apparatus according to claim 4, wherein

the introduction pipe has a floating matter collecting wall protruding downward from an upper portion of an inner wall of a flow path of the introduction pipe.

6. The metal powder ~~production~~manufacturing apparatus according to claim 1, wherein

~~an~~the other end of the introduction pipe is open ~~above~~in an inside the second crucible~~.~~, and

the height of a lowest portion having the lowest height in the flow path in the introduction pipe is lower than the height of the other end.

7. The metal powder ~~production~~manufacturing apparatus according to claim 6, wherein

the introduction pipe includes a main pipe having the one end of the introduction pipe, a plurality of branch pipes branching from the main pipe and open in the second crucible, and a branching portion at which the main pipe branches to the plurality of branch pipes,

the branching portion is provided at a position lowest in the flow path in the introduction pipe, and

a height of open ends of the plurality of branch pipes is higher than the height of the branching portion.

8. The metal powder manufacturing apparatus

according to claim 7, wherein

the introduction pipe has a floating matter collecting wall protruding downward from an upper portion of an inner wall of a flow path of the introduction pipe.

~~8~~9. The metal powder ~~production~~manufacturing apparatus according to claim ~~6~~1, wherein

~~a level of~~the molten metal nozzle is a plurality of molten metal nozzles provided on the bottom face of the second crucible, and

the plurality of gas injection nozzles is provided around each of the plurality of molten metal nozzles and inject a gas fluid to the molten metal flowing down from the plurality of molten metal nozzles.

10. A metal powder manufacturing apparatus comprising:

a first crucible capable of receiving a metal before melting;

~~lowest portion having a lowest level~~ a first heating device for heating the metal in ~~a flow path in the introduction pipe is~~ the first crucible to melt the metal;

a stopper that opens and closes a first opening provided on a bottom face of the first crucible;

a second crucible that accepts the molten metal flowing out of the fist opening;

a second heating device for heating the second crucible;

a molten metal nozzle provided on a bottom face of the second crucible; and

a plurality of gas injection nozzles that are provided around the molten metal nozzle and inject gas fluid to the molten metal flowing down from the molten metal nozzle, wherein

a lower ~~than a level of the other~~ end of the ~~introduction pipe.~~first opening is opened above the second crucible.

~~9~~11. The metal powder ~~production~~manufacturing apparatus according to claim ~~8~~10, wherein

~~the introduction pipe has a floating matter collecting wall protruding downward from an upper portion of an inner wall of a flow path of the introduction pipe.~~

the second crucible is installed on a lower side of the first crucible.

12. ~~10.~~ The metal powder ~~production~~manufacturing apparatus according to claim ~~6, wherein~~

~~the second crucible is installed below the first crucible.~~

~~11. The metal powder production apparatus according to claim 1~~10, wherein

~~an other end of~~ the ~~introduction pipe~~molten metal nozzle is ~~open inside~~a plurality of molten metal nozzles provided on the bottom face of the second crucible, and

~~a level of a lowest portion having a lowest level in a flow path in the introduction pipe is lower than a level of the other end of the introduction pipe.~~

~~12. The metal powder production apparatus according to claim 11, wherein~~

~~the introduction pipe includes a main pipe having the one end of the introduction pipe, a plurality of branch pipes branching from the main pipe and opening in the second crucible, and a branch portion where the main pipe branches into~~ the plurality of ~~branch pipes,~~

~~the branch portion is provided at a position having the lowest level in the flow path in the introduction pipe, and~~

~~a level of an open end of~~gas injection nozzles is provided around each of the plurality of ~~branch pipes is higher than a level of the branch portion~~molten metal nozzles, and inject gas fluid to the molten metal flowing down from the plurality of molten metal nozzles.

~~13. The metal powder production apparatus according~~

~~to claim 12, wherein~~

~~the introduction pipe has a floating matter collecting wall protruding downward from an upper portion of an inner wall of a flow path of the introduction pipe.~~

~~14. The metal powder production apparatus according to claim 1, wherein~~

~~the liquid nozzle is a plurality of liquid nozzles provided on the bottom surface of the second crucible,~~

~~the plurality of gas jet nozzles are arranged around each of the plurality of liquid nozzles, and jetting a gas fluid to the molten metal flowing down from the plurality of liquid nozzles.~~