WHAT IS CLAIMED IS:

1. An annular grindstone, comprising:

a grindstone portion in which abrasive grains are fixed with a bonding material containing nickel,

wherein the grindstone portion has a laminated structure of a total of three or more layers in which a first layer having a porous structure with a first pore size and a second layer having a porous structure with a second pore size different from the first pore size are alternately laminated on top of another in a penetrating direction of a through hole and both of outermost layers in the laminated structure which are exposed outside are the first layers.

2. The annular grindstone according to claim 1,

wherein the first pore size of first layer has a smaller diameter than a diameter of the second pore size of the second layer.

3. The annular grindstone according to claim 1,

wherein the annular grindstone is formed only of the grindstone portion.

4. The annular grindstone according to claim 1, further comprising:

an annular base,

wherein the grindstone portion is disposed at an

outer periphery edge of the annular base.

5. A manufacturing method of an annular grindstone which includes a grindstone portion in which abrasive grains are fixed with a bonding material containing nickel and has a through hole at a center thereof, the manufacturing method comprising:

a plating bath preparation step of preparing a plating bath in which a nickel plating solution into which the abrasive grains are mixed and an additive which contributes to formation of a porous structure are stored;

an immersion step of immersing a base and a nickel electrode in the plating bath;

a grindstone portion forming step of flowing a direct current through the plating solution with the base as a cathode and the nickel electrode as an anode, thereby depositing a plating layer containing the abrasive grains on a front surface of the base to form the grindstone portion; and

a base removing step of removing all or part of the base to expose all or part of a region of the grindstone portion which is covered with the base,

wherein, in the grindstone portion forming step, a first layer having a porous structure with a first pore

size and a second layer having a porous structure with a second pore size different from the first pore size are caused to be alternately laminated on top of another by alternately changing a current density of the direct current between a current density smaller than a predetermined value and a current density of the predetermined value or more, thereby forming the grindstone portion having a laminated structure of a total of three or more layers in which both of outermost layers which are exposed outside are the first layers.

6. An annular grindstone, comprising:

a grindstone portion in which abrasive grains are fixed with a bonding material containing nickel; and

a through hole at a center of the grindstone portion,

wherein the grindstone portion has a laminated structure of a total of three or more layers in which a first layer having a non-porous structure and a second layer having a porous structure, are alternately laminated on top of another in a penetrating direction of the through hole and both of outermost layers in the laminated structure which are exposed outside are the first layers.