METHOD FOR PRODUCING DECORATIVE STONE

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A method for producing a decorative stone comprises steps of: cutting a stone or other decorative materials into certain positive pieces having various shape by the water-jet; cutting another stone to certain depth but not through according to the shape of said positive piece to make a negative piece by the water-jet; taking out cut-off pieces from said stone; inlaying said positive pieces into said negative piece to form as an integrated piece; and polishing a surface of said positive pieces and said negative piece. In accordance with the present invention, the water-jet technology can bring high manufacture efficiency and the inlay can be industrialized easily. It also increases the decorative effect through inlaying different pattern and specificity stones.
METHOD FOR PRODUCING DECORATIVE STONE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a field of decorative stones, and more especially to a method for producing a decorative stone.

[0003] 2. Description of the Prior Art

[0004] A decorative stone is one type of building stones which has function of decoration and can be used for architectural decoration or furniture tops. The pattern of cutting a decorative stone to form certain shape is normally by a diamond disk saw or a diamond wire saw. Unfortunately, subjected to the restriction of the specificity of the cutting tool and the work piece, the work piece could not be machined accurately during manufacturing. The known machine pattern also fails to machine the work piece as various predetermined shapes without penetrating the work piece.

[0005] Water-jet technologies are increasingly used for cutting stones. Common water is pressurized to 200-400 MPa after filtration and then goes through a specific nozzle to form a water-jet having a speed equivalent to three times of the acoustic velocity. This type of water-jet can cut various soft nonmetallic materials. With respect of certain hard materials such as metal, glass, stone and ceramic, if add certain gravel ingredient through a special tool head into the common water-jet, the capability of cutting can be improved highly so as to cut almost all the materials. Since the water-jet is one type of cold working, it will not cause any change to the performance of the materials to be operated. Also because the water-jet does not create any mechanical strain during operating, there is a smooth surface in the incision.

[0006] The art of the stone inlay was used even in the ancient India, but by far this art is embodied by manual work none the less. However, it is of course not ensured that each product of each-time production is identical to another, so this art is unable to be industrialized and the manufacturer using this way can not have mass production based on the identical design of the order form in modern commercial distribution field.

BRIEF SUMMARY OF THE INVENTION

[0007] A primary object of the present invention is to provide a method for producing a decorative stone which utilizes water-jet to cut stones and inlays different pattern and specificity stones to increase decorative effect.

[0008] To achieve the above-mentioned object, a method for producing a decorative stone comprises steps of: cutting a stone or other decorative materials into certain positive pieces having various shape by the water-jet; cutting another stone to certain depth but not through according to the shape of said positive piece to make a negative piece by the water-jet; taking out cut-off pieces from said stone; inlaying said positive pieces into said negative piece to form as an integrated piece; and polishing the surface of said positive pieces and said negative piece.

[0009] In accordance with the present invention, the water-jet technology can bring high manufacture efficiency and the inlay can be industrialized easily. Additionally, the incision surface is smooth. It also increases more decorative effects through inlaying different pattern and specificity stones.

[0010] Other objects, advantages and novel features of the present invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings, in which:

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a schematic view showing a positive piece in accordance with the present invention;

[0012] FIG. 2 is a schematic view showing a negative piece in accordance with the present invention; and

[0013] FIG. 3 is a schematic view showing the inlay of the positive and negative pieces in accordance with the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0014] A method for producing a decorative stone in accordance with a preferred embodiment of the present invention includes steps as follows:

[0015] At the step 1, referring to FIG. 1, on the basis of requirements of different designs, various metal molds (namely the first metal molds) are used for cutting a stone (or other decorative materials) into certain positive pieces 1 having various shape by the water-jet technology.

[0016] Then turn to the step 2, making another set of metal molds (namely the second metal molds) which have the same shape as the first metal molds but a bit smaller size. Using the second metal molds to cut another stone to certain depth. It should be note that here the cut is not through, only to certain depth. The actual depth depends on the shape and the design. Since the second metal molds have a thickness themselves, the cut-off pieces is a little larger than the positive pieces 1.

[0017] At the step 3, referring to FIG. 2, taking out the cut-off pieces which have designated shapes by a tool. The remaining one is called negative piece 2.

[0018] At the step 4, referring to FIG. 3, inlaying the positive pieces 1 into the negative piece 2 with adhesives to form as an integrated piece.

[0019] Finally, at the step 5, polishing a surface of the positive pieces 1 and the negative piece 2.

[0020] Advantageously, it is preferred to choose a sandwich stone tile such as stone-stone, stone-ceramic tile, stone-fiberglass, stone-aluminum plastic, stone-metal, stone-aluminum honeycomb, stone-composite material or the like to manufacture the negative piece 2. The inlaid sandwich stone tile is made by a combination of a thin layer of stone (2-8 mm) and another layer of other materials. The benefit of choosing a sandwich stone tile lies in that the cutting becomes easier and it is more conveniently to take out the cut-off pieces for the reason of structural specificity of the inlaid sandwich stone tile.
In accordance with the present invention, it could adopt stones having different pattern and specificity respectively as the positive pieces 1 and the negative piece 2 so as to increasing more decorative effects of the inlaid piece.

It is believed that the present invention and its advantages will be understood from the foregoing description, and it will be apparent that various changes may be made thereto without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the examples hereinbefore described merely being preferred or exemplary embodiments of the invention.

1. A method for producing a decorative stone comprising steps of:
   cutting a stone or other decorative materials into certain positive pieces having various shapes by a water-jet;
   cutting another stone to a certain depth but not through according to the shape of said positive pieces to make a negative piece by the water-jet;
   taking out cut-off pieces from said negative piece;
   inlaying said positive pieces into said negative piece to form an integrated piece; and
   polishing a surface of said integrated piece.
2-3. (canceled)
4. The method as claimed in claim 1, wherein adhesives are utilized to engage said positive pieces to said negative piece when inlaying said positive pieces into said negative piece to form an integrated piece.
5. The method as claimed in claim 1, wherein said negative piece is a common stone tile or a sandwich stone tile.
6. The method as claimed in claim 5, wherein said sandwich stone tile is selected from the group consisting of a stone-stone, ceramic tile, a stone-fiberglass, stone-aluminum plastic, stone-metal, stone-aluminum honeycomb, and stone-composite material.
7. The method as claimed in claim 1, wherein said negative piece has a plurality of non-through portions corresponding to said cut-off pieces.
8. A method for producing a decorative stone comprising:
   making at least one positive piece by cutting a stone or other decorative materials by a water-jet;
   cutting another stone without passing through by the water-jet to make a negative piece according to the shape of the positive pieces;
   removing cut-off pieces from said negative piece;
   placing said positive pieces into said negative piece to form an integrated piece; and
   polishing a surface of said integrated piece.

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