W. H. JENNENS

METHOD OF MAKING ARTIFICIAL STONE

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To all whom it may concern:

Be it known that I, WILLIAM H. JENNENS, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Methods of Making Artificial Stone; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this application.

This invention relates to the manufacture of artificial stone and it has to do particularly with the manufacture of an article simulating travertine found in Italy.

The original stone somewhat resembles unpolished marble in that it is provided with stratification and nodules, the surface of the stone having recesses somewhat resembling worm-eaten wood.

The artificial stone manufactured by the method hereinafter described very accurately simulates the original, and the various steps followed in carrying out my process will be fully described hereinafter, reference being had to the accompanying drawings, in which

Fig. 1 is a perspective, sectional view through a mould adapted for use in connection with my invention showing the flexible member for applying the stratification color.

Fig. 2 shows the stratification color applied, the nodules and the gas forming material.

Fig. 3 is a similar view showing the cementitious material applied.

Fig. 4 is a like view showing the recesses formed by the gas-forming material, and

Fig. 5 is a perspective view of the finished product.

In carrying out the invention the mould first receives the stratifying material. The flat floor 1 of the mould may be provided with an edge wall 2 extending entirely around it, although the edge wall 2 is not absolutely essential.

The floor 1 of the mould is preferably greased, then the operator applies the stratifying color as shown in Fig. 1. A convenient method of applying the stratifying color is to mix the color in a receptacle to the proper consistency, that is, to about the consistency of thick paint. Then immerse a string or cord in the color and by taking hold of the ends of the string, as shown in Fig. 1, the string can be laid upon the upper surface of the bottom of the mould in a haphazard manner so that the color will be deposited from the string to the mould in an irregular line. It is better if the color adheres to some parts of the string more than to the other as it is not desired to have a sharp stratifying line. After the stratifying color is applied small particles or nodules are splattered or sprinkled between the stratifications onto the mould.

The nodules may be of different color from the stratifications. Any proper means may be employed but a convenient way of applying the nodules is to dip a brush or whist-broom into a liquid color and flick the ends of the bristles or straws so that the color will spatter, like small raindrops, upon the surface of the mould floor. Then a gas forming material is sifted over the surface of the mould. Bicarbonate of soda may be used although, obviously, other forms of gas forming powders may be used.

When the gas forming material has been applied, the mould is ready to receive the cementitious material which is applied in a plastic state, as shown in Fig. 3. The cementitious material is lightly spread over the surface of the mould and then a dry material is applied to take up the excess moisture in the plastic cement and to seal any capillaries and voids formed by the gas forming material in the plastic cement; this sealing being important for otherwise the gas formed by the bi-carbonate of soda and acidulated water would escape through the cementitious material unless the upper surface of the cementitious material was sealed off. By sealing off the upper surface of the cementitious slab or layer the gas formed by the gas-forming material and water will make little cells in the surface of the layer adjacent to the mould floor. The slab may then be backed up with a wooden panel or other reinforcement if desired.

The string designated 3 may be of any suitable material. By placing it upon the floor, the stratifications 4 are formed. The nodules 5 and the gas-forming powder 6 are shown, as nearly as they can be illustrated, in Fig. 2. The batch or layer 7 of cementi-
tious material is shown in Fig. 3. The dry material 8 is illustrated in Fig. 4 although its thickness is somewhat exaggerated. In Fig. 4 it will also be seen that the cells 9 formed by the gas-forming material and water are irregular, but so they are in the original travertine found in Italy.

In Fig. 5 I have shown the finished slab, designated 10, with the stratification representations 11 corresponding to the stratifications 4. The cells 9 are shown as are also the nodules 5. The stratifications, cells and nodules are somewhat exaggerated in Fig. 5 but in actual practice the stratifications blend off just as is found in the original stone.

The finished product very closely resembles the original travertine. It is easy to manufacture and may be made of uniform quality, and wherever desired, special colors may be used although I recommend the use of grayish white color for the body as this more closely approximates the original travertine.

The time that the slab is required to set may vary slightly but this can easily be determined by experiment. If in doubt it is better to allow a longer time because too much time will not be at all detrimental to the finished product.

What I claim and desire to secure by Letters-Patent is:

1. The method of making artificial stone, which consists in depositing upon a surface, a plurality of irregular narrow layers of material to simulate veins, applying small fractions of material upon the surface to provide nodules, applying a gas-forming material upon the surface, applying a plastic cementitious material on top of the surface and upon top of the previously deposited material, sealing the outer surface of the cementitious material.

2. The method of making artificial stone, which consists in depositing upon a surface, a plurality of irregular thin narrow layers of material to simulate veins, applying drops of material to the surface between the veins, applying a gas-forming material to the surface, applying a layer of cementitious material to the surface of sufficient thickness to form the body of the artificial stone, sealing the outer surface of the layer, and allowing the mass to set.

3. The method of making artificial stone, which consists in providing a mould with a prepared surface, depositing a veining substance upon the surface, applying a gas-forming medium upon the surface, applying a cementitious layer upon the surface to co-mingle with the material previously applied, and sealing the outer surface of the said body.

4. The method of making artificial stone, which consists in providing a mould floor, depositing a veining substance upon the floor, applying a gas-forming medium upon the floor, applying wet cement upon the floor to provide a layer of a thickness substantially equal to the thickness of the finished product, and sealing the exposed face of the layer.

5. The method of making artificial stone, which consists in applying veining material to a surface, applying spotting material to the surface between the veins to form nodules, applying gas-forming material to the surface, applying cementitious material on top of the previously deposited material and on the surface, and sealing the outer face of the layer.

6. The method of making artificial stone, which consists in applying veining material to a surface, applying spotting material to the surface between the veins to form nodules, applying a gas-forming material to the surface, applying cementitious material on top of the previously deposited material and on the surface, and sealing the outer face of the layer with dry powder.

7. The method of making artificial travertine which consists in depositing upon a surface, a plurality of irregular narrow layers of material to simulate veins, applying small fractions of material upon the surface to provide nodules, applying a gas-forming material upon the surface, applying a plastic cementitious material on top of the surface and upon top of the previously deposited material, sealing the outer surface of the cementitious material.

In testimony whereof I affix my signature.

WILLIAM H. JENNENS.