

# UNITED STATES PATENT OFFICE.

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## PROCESS OF CASTING ARTIFICIAL STONE.

962,924.

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No Drawing.

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*To all whom it may concern:*

Be it known that I, JOSEPH B. SIMPSON, a citizen of the United States, and a resident of Newton, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Processes of Casting Artificial Stone, of which the following description is a specification.

This invention relates to processes of casting artificial stone.

In order that the principle thereof may readily be understood, I shall describe the best manner known to me for carrying out the invention.

Artificial stone has been cast in sand molds by forming with a pattern the desired mold in a mass of sand and depositing therein in a fluent state a suitable stone composition consisting of an aggregate, cement and water. The aggregate employed has commonly been sand or crushed rock which is mixed in suitable proportion with cement and with a sufficient amount of water to make either a grout or a concrete mass sufficiently approaching a semi-fluid condition to permit the mass to fill the lines of the mold.

I have discovered that if with cementitious material and a suitable fluid such as water I employ the same material both as an aggregate and as the mold constituent, I may thereby mold artificial stone which in the process of setting assimilates from the faces of the mold walls a granular coating or face of the same material as that constituting the aggregate and without impairment of the lines of the cast stone, but with improvement in the texture of the finished stone. This granular deposit adheres to and becomes incorporated with the stone, which therefore is of homogeneous constituency throughout and has, owing to its assimilation of said granular coating, a slightly roughened superficial effect characterizing certain natural stone and presenting a highly pleasing and artistic appearance. Inasmuch as the cast stone is of homogeneous constituency throughout, it follows that if any portion of its surface wears away in the course of time from exposure to the elements, the surface color of the stone is not thereby changed. Therefore unequal surface wear or weathering of a building constructed of stone embodying my invention, will not alter the appearance of any portion thereof,

nor result in a spotted or mottled appearance. Moreover the stone may be cut or carved and because of its homogeneous nature, still present the same facial characteristics.

In carrying out my invention, I may form the mold of granite dust or marble dust, or some suitable and preferably artificially comminuted form of such material and employ the same material as an aggregate.

I am aware that it has been proposed to employ a non-absorbent mold and to deposit in the bottom thereof a layer of sand, the stone composition being poured into the mold and the cementitious matter thereof permeating more or less the sand layer, so that it or a portion thereof becomes incorporated with the stone thereby to present a rock face. In such process, however, it is impossible to employ a pattern so as to obtain an accurate formation, and the amount of sand taken up or incorporated by the cast and its distribution over the face of the cast cannot be predetermined. Therefore no two casts can be made alike, nor can any pattern be simulated with any degree of exactitude. Moreover, a sand layer can be incorporated with but a single face of the cast in accordance with this method. With my invention, on the other hand, each face of the stone can and does assimilate the described granular coating from the mold material.

In the practice of my invention, I may employ any suitable binder, serving to retain the shape imparted to the mold by the pattern, but at the same time permitting the picking off by the poured composition of the granular deposit to which I have referred. The binder employed may be water and in conjunction therewith I may employ talc or other suitable material. The stone compound referred to is deposited in the mold as a fluent molding mass.

Having thus described one embodiment of my invention, I desire it to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

### Claims.

1. That process of casting artificial stone which consists in forming a mold of comminuted granular aggregate material and a binder, depositing in said mold a fluent

molding mass composed of a cementitious material and aggregate material substantially identical with said mold aggregate material, and permitting said molding mass  
5 to set and thereby to assimilate a granular coating of said aggregate material from a face or faces of the mold walls.

2. That process of casting artificial stone which consists in forming a mold of arti-  
10 ficially comminuted granular aggregate material and a binder, depositing in said mold a fluent molding mass composed of a cementitious material and aggregate material

substantially identical with said mold aggregate material, and permitting said molding mass to set and thereby to assimilate a gran- 15  
ular coating of said aggregate material from the faces of the mold walls.

In testimony whereof, I have signed my name to this specification, in the presence of 20  
two subscribing witnesses.

JOSEPH B. SIMPSON.

Witnesses:

IRVING U. TOWNSEND,  
MAY H. LOWRY.