

# UNITED STATES PATENT OFFICE.

WILLIAM B. HERBERT, OF NEW YORK, N. Y.

PROCESS OF MANUFACTURING DECORATED TILES, PLAQUES, &c.

SPECIFICATION forming part of Letters Patent No. 273,527, dated March 6, 1883.

Application filed June 19, 1882. (Specimens.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. HERBERT, a subject of the Queen of Great Britain, residing at New York, in the county and State of New York, have invented a certain new and useful Process of Manufacturing Decorated Tiles, Plaques, and other like articles, of which the following is a specification.

The object of my invention is to produce decorated tiles or like ornamented articles resembling in appearance ordinary painted tiles and ceramic ware by a simple process and at comparatively small cost, which end I attain by making use of an artificial compound which is capable, when at a sufficiently high temperature, of absorbing the quantity of dry coloring material requisite to produce the intended effect, and by pouring this compound while in a molten condition into a mold which bears upon its inner surface the reverse or negative of the design or picture which it is desired to transfer to the surface of the tile or other like article.

The composition which I prefer to employ in carrying out my invention consists of a mixture of substantially equal proportions of sulphur and finely-powdered lime; but various other ingredients may be employed as a substitute. For example, for the lime, sulphur may be mixed with asbestos, gypsum, or other like material adapted to render the casting non-inflammable and to impart a desirable degree of strength and cohesiveness to its structure. Hence, for the purposes of this invention, gypsum, asbestos, and other like materials may be regarded as equivalents of lime.

The design which is to be transferred to the surface of the composition may be first printed or stamped with any suitable printing-inks or ordinary permanent inks by any of the well-known processes adapted to such purposes, and they may be either plain or in different colors. The design is preferably first imprinted upon a polished surface—such as that presented by stout calendered paper or board—and the paper is then fitted within the mold, and made to conform to the inner surface thereof exposing the side upon which the design is imprinted. The compound is poured, while in a molten and liquid state, into the mold, which latter may be of any well-known

form and construction suitable for the purpose. When the casting has cooled and hardened it is removed from the mold. In case paper has been employed as the backing of the negative of the picture, it is then moistened by means of a brush and removed, leaving the coloring materials forming the design attached to the surface of the casting. The sulphur of the composition acts to absorb a portion of the printing-ink or other substance or substances forming the design, and the design is thereby transferred to and becomes incorporated within the structure of the tile or other article, while the smooth surface of the mold or of the calendered paper which forms the backing of the negative gives to the casting a correspondingly smooth and polished surface. In practice I have obtained the best results by employing a surface of glass upon which to place the paper or other material bearing the design. Thus, if a plain decorated tile is to be formed, the design is laid upon a flat piece of glass and suitable means provided to form the tile in the required shape. The molten compound is then poured directly upon the design and treated in the manner already described.

It will be evident that the surface of the casting may be made to assume any desired form, either regular or irregular, for producing a perspective picture or one in relief, according to the form of the surface bearing the negative of the design.

I claim as my invention—

1. The hereinbefore-described process of forming decorated tiles or other like articles, which consists in pouring upon a design or decorated surface a molten compound capable of absorbing, when heated, a portion of the coloring material forming the said design or the decoration.

2. The hereinbefore-described process of manufacturing decorated tiles or other like articles, which consists in casting a composition of sulphur and lime or other equivalent substance in a molten state within a mold upon the inner surface of which is imprinted the reverse or negative of the design which is to be transferred to said article.

3. A tile or other like article of a flat, curved, or irregularly-shaped surface, composed of a mixture of sulphur and lime or other like sub-

stances which will, when in a heated condition, absorb coloring materials, to which a design has been applied by pouring the mixture in a molten condition upon a surface bearing  
5 the reverse of said design formed in material adapted to be absorbed by such composition.  
In testimony whereof I have hereunto sub-

scribed my name this 17th day of June, A. D. 1882.

WILLIAM B. HERBERT. [L. S.]

Witnesses:

FREDERICK J. STONE,  
GEO. S. SEARING.