

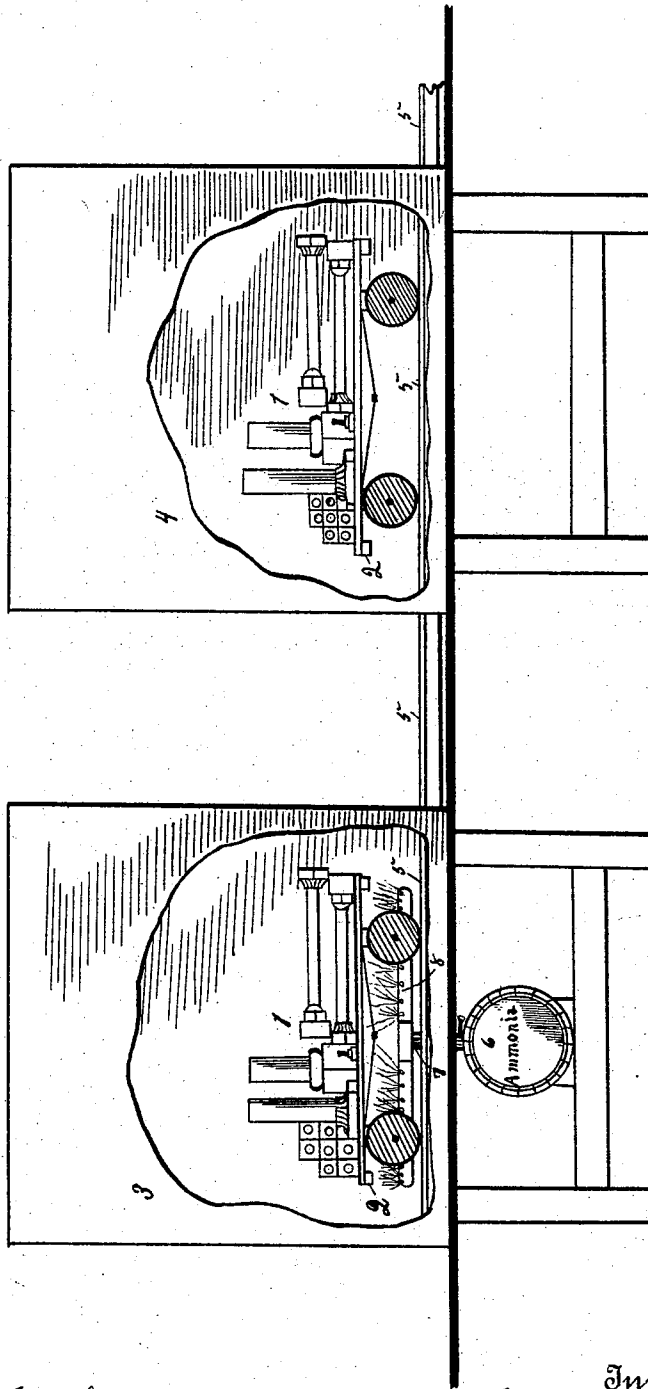
(No Model.)

G. W. PARKER.

PROCESS OF TREATING GYPSUM ROCK TO IMITATE MARBLE.

No. 588,287.

Patented Aug. 17, 1897.



Witnesses
Thomas W. Stewart.
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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON PARKER, OF GRAND RAPIDS, MICHIGAN.

PROCESS OF TREATING GYPSUM-ROCK TO IMITATE MARBLE.

SPECIFICATION forming part of Letters Patent No. 588,287, dated August 17, 1897.

Application filed October 18, 1895. Renewed July 10, 1897. Serial No. 644,122. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON PARKER, a citizen of the United States, residing at Grand Rapids, in the county of Kent, State of Michigan, have invented a new and useful Process of Treating Gypsum-Rock to Imitate Marble, of which the following is a specification.

This invention relates to processes of treating gypsum-rock by dehydration and chemical immersion to imitate marble; and it has for its object to facilitate and hasten crystallization, to obviate danger of the rock slacking and cracking during treatment, and to produce a more desirable product.

I carry my invention into effect by the process described below.

In the drawing forming a part of this specification, which I have introduced to assist in describing the method, is shown a side elevation of a drying and cooling compartment. One wall of these compartments is broken away, showing the interior.

Prior to treatment by my process the native gypsum-rock, crude from the mines, is sawed and shaped by planing and turning into the desired configurations.

The articles on the trucks 2, at 1, will serve to illustrate the idea. Almost any trimming in lieu of woodwork may be made, and pillars, knobs, brackets, &c., which need not be further described here. The first step in the process is to dehydrate these articles made out of the native rock by the action of hot air at a temperature of approximately 330° Fahrenheit for twelve hours, more or less, until the moisture in the native rock is eliminated. A convenient plan is to load the articles formed from the rock onto a truck, as 2, on the track 5 and run it first into the hot-air compartment 4. After the moisture has been eliminated the then calcium sulfate is porous and ready for cooling. Cooling the rock is the next step in the process. It has been my practice prior to the present invention to cool the hot dehydrated rock by letting it remain for some time in the cool open air; but I find by this plan that the rock is liable to slake more or less and crack, and, what is very objectionable, it becomes impregnated with moisture, which it takes from the open air, thus undoing to a degree the

work already accomplished and retarding and diminishing crystallization in the after treatment. To obviate these difficulties, I allow the rock to cool in a compartment from which the outer air is excluded, and which compartment while the rock is in it is charged with the gas or fumes of ammonia. This greatly accelerates the cooling of the hot rock. It does not slake nor crack nor gather to itself the moisture from the outer air, for which reason it may be sooner subjected to the next treatment, and for which reason the next treatment is more effectual. A convenient plan of using the ammonia for this purpose is to connect with the tank or barrel 6 of aqua-ammonia a pipe 7 and connect this with an elongated perforated tube or tubes 8, located between the rails of the track 5 in the closed cooling-compartment 3, so as to be beneath the truck 2 when run into said compartment from the hot-air compartment 4.

The compartment 3 is designed to be located a sufficient distance away from the workmen so they will not be annoyed by the fumes, which are allowed to escape before the rock is removed for further treatment; but there is not enough ammonia required for each batch of rock to seriously charge the open air when allowed to escape.

While the rock is cooling, a bath composed of a solution of aluminium sulfate is prepared and heated to approximately 100° Fahrenheit. As soon as the rock is cool I immediately immerse it in this warm solution for a short time until the pores are filled.

The object of warming the solution is to prevent the bursting out of particles of the rock, which has been my experience with the use of a cold bath of this solution, and to improve and accelerate the crystallization, which, I find, takes place almost immediately in the warm bath. After having been thus treated the rock is allowed to dry and is then polished, presenting a hard surface of beautiful luster, which cannot be affected by frost or weather, and I have found that even muriatic acid will not affect it.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The process of treating native gypsum-rock, which process consists in eliminating the

moisture from the rock by the action of hot
air, then removing the then hot calcium sul-
fate into a closed compartment, charged with
the fumes of ammonia, and then immediately
5 immersing the cool rock in a warm solution
of aluminium sulfate until the pores are filled,
substantially as set forth.

In testimony of the foregoing I have here-
unto subscribed my name in the presence of
two witnesses.

GEORGE WASHINGTON PARKER.

Witnesses:

WM. J. STUART,

ETTA M. MONTGOMERY.