

UNITED STATES PATENT OFFICE.

JOHN J. PRATT, OF WAKEFIELD, MASSACHUSETTS.

HARDENING AND COLORING SERPENTINE ROCK.

SPECIFICATION forming part of Letters Patent No. 313,522, dated March 10, 1885.

Application filed March 17, 1884. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN J. PRATT, of Wakefield, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Hardening and Coloring Serpentine Rock, of which the following is a specification.

My invention relates to the treatment of serpentine stone, which in its natural condition, when taken from the quarry, although a beautiful stone and adapted for interior decoration, is not considered of sufficient hardness for outside exposure. The process consists in subjecting this material, either in the form of slabs or blocks or pieces of different sizes and form, to a gradual heat of from 100° to 1,000° Fahrenheit by any method where the heat can be graduated and the cold air excluded, the time and heat required depending upon the hardness and color desired. Articles of serpentine stone already shaped and polished can be subjected to the same treatment without impairing the workmanship or high finish. Among the tests made by me one slab was subjected to a temperature of about 900° for three days with a satisfactory result. I also find that after undergoing the treatment above described I can place the material thus treated in direct contact with a very hot coal fire for one-half hour until it becomes red-hot, which I have repeatedly done, without injuring the stone, even when polished. My process is therefore adapted to produce a fire-proof material for building and other purposes, either in the form of slab, block, or finished ornaments, or the material pulverized.

My invention includes all serpentine and magnesian stones free from lime, because the absence of lime and the presence of asbes-

tus and magnesia in such stones enables me to transform the green or other serpentine into a stone of largely-increased hardness, and to change the colors from green to rich shades of orange, red, and brown, by which change I can furnish a material well adapted for exposure to the elements and suitable for any outside work.

The process herein described will result in the production at a moderate expense of a large amount of beautiful and valuable material for building and decorative purposes, which will compare favorably with the best and most costly foreign marbles and stone.

I know of no other natural stone that can stand the above-described treatment, all other stones being disintegrated by the degree of heat applied, while the serpentine stone is increased in hardness by the described treatment from one to two hundred per cent.

I claim—

The hereinbefore-described method of treating natural rock which is free from lime for hardening and developing the color thereof, which consists in exposing blocks of the material to a gradually-increasing temperature of from 100° to 1,000° while the blocks are protected from cold air, and then gradually cooling the same, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 10th day of March, 1884.

JOHN J. PRATT.

Witnesses:

C. F. BROWN,
A. L. WHITE.