

# UNITED STATES PATENT OFFICE.

DECIUS W. CLARK, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN COMPOUNDS FOR ENAMELING BRICKS.

Specification forming part of Letters Patent No. 111,318, dated January 31, 1871.

I, DECIUS W. CLARK, of the city of Chicago, county of Cook and State of Illinois, have invented certain Improved Enameling - Compounds, of which the following is a specification:

My invention relates to the class of compounds for coating the surfaces of common or building brick; terra-cotta work, crockery, and all similar kinds of articles produced of common clay; also, various kinds of iron work where ornamentation and durability are desired; and the object of this invention is to produce said enamel in various colors other than white; and, as may be desired, either separately or in combination, to suit the fancy or taste of the user.

I use—

For black, eighty-five parts, by weight, of feldspar; seventy parts of flint or quartz; sixty-five parts of Paris white; fifty parts of oxide of zinc; fifty-four parts of boracic acid; twelve parts of kaolin or China clay; two parts of black oxide of manganese; one part of black oxide of cobalt.

For blue, eighty parts, by weight, of feldspar; seventy parts of flint or quartz; sixty-five parts of Paris white; fifty-two parts of boracic acid; fifty parts of oxide of zinc; twelve parts of kaolin or China clay; two parts of black oxide of cobalt.

For yellow, eighty parts, by weight, of feldspar; seventy parts of flint or quartz; sixty-five parts of Paris white; fifty-two parts of boracic acid; fifty parts of oxide of zinc; twelve parts of kaolin or China clay; two parts of oxide of uranium.

For drab, eighty parts, by weight, of feldspar; seventy parts of flint or quartz; sixty-five parts of Paris white; fifty-five parts of boracic acid; fifty parts of oxide of zinc; twelve parts of kaolin or China clay; six parts of Brandon mineral paint; one part of potters' blue.

For green, eighty parts, by weight, of feldspar; seventy parts of flint or quartz; sixty-five parts of Paris white; fifty-two and one-half parts of boracic acid; fifty parts of oxide of zinc; sixteen parts of kaolin or China clay; two and one-half parts of oxide of copper.

For red, eighty parts, by weight, of feldspar; seventy parts of flint or quartz; sixty-five parts of Paris white; fifty-two and one-half parts of boracic acid; fifty parts of oxide of zinc; eight parts of kaolin or China clay; four parts of lime; two and one-half parts of suboxide of copper.

For brown-stone, red sandstone, and various other colors, variable proportions of these several mixtures may be used, as desired, and the proportions may also be varied.

The method of using these various elements to produce the desired results is to combine all the several ingredients for any special color together in a crucible or retort and calcine them together, (not separately, if the best results are desired.) Then reduce the mass, in a mill or under the muller or pestle, with water to about the consistency of cream, or to such a degree as to be easily and smoothly spread over the surface to be treated. The articles are then coated, either by brushes or immersion, and then raised to a sufficient temperature to fuse the enameling-compound.

When articles are so coated they will be found to resist the action of frost or the usual elements of decay, and are impervious to moisture, and will never fade or stain.

I claim—

The enameling-compounds, substantially as described, and for the purposes set forth.

DECIUS W. CLARK.

Witnesses:

CHARLES H. LEONARD,  
BOYD ELIOT.