

F. BELLET.
MANUFACTURE OF ULTRAMARINES.
APPLICATION FILED MAY 17, 1909.

938,408.

Patented Oct. 26, 1909.

FIG. 1-

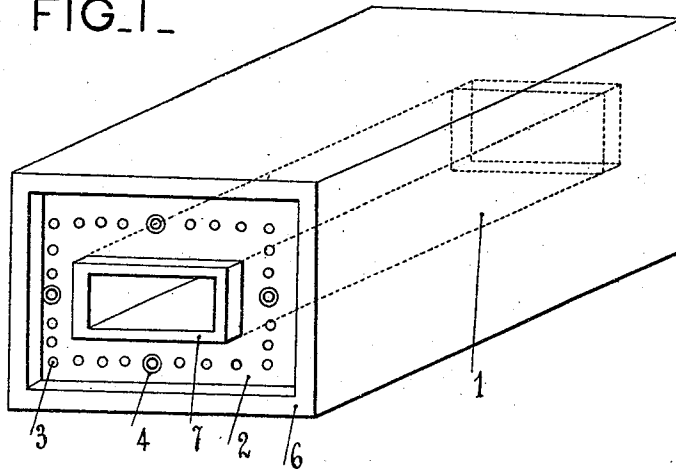


FIG. 2-

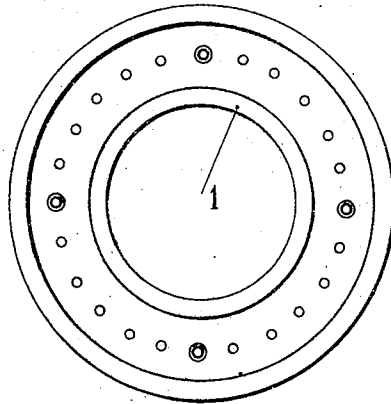


FIG. 3-

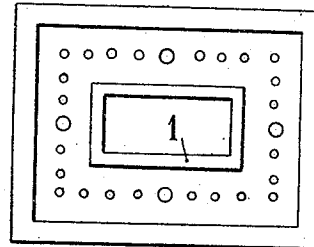


FIG. 4-

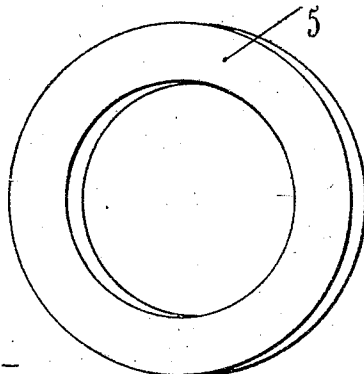
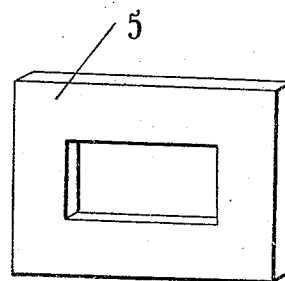


FIG. 5-



Witnesses:-
Ruth C. Fitzhugh.
M. A. Hood.

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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF ULTRAMARINES.

938,408.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed May 17, 1909. Serial No. 496,511.

To all whom it may concern:

Be it known that I, FERDINAND BELLET, a resident of 10 Avenue Crudaine, Paris, France, have invented a new and useful Improvement in the Manufacture of Ultramarines, which improvement is fully set forth in the following specification.

This invention for improvements in the manufacture of ultramarines consists substantially in heating the mass of raw materials in the center and through the periphery of the same, at the same time, the mass being subjected to oxidation at the proper moment by the forming of longitudinal ducts therein through which the air enters and effects oxidation of the mass.

In Figures 1 to 5 of the accompanying sheet of drawings one method of carrying out this invention is shown. Fig. 1 is a perspective view of a prismatic saggar. Figs. 2 and 3 are end views of a cylindrical and of a prismatic saggar respectively. Figs. 4 and 5 illustrate covers intended for closing certain parts of the face of the saggar at the proper moment.

As will be seen from the figures in the center of the saggar an interior prismatic or cylindrical tube is arranged which projects at each end from the front and back walls of the saggar. Around this tube the walls are formed with a series of small holes 3 and with four holes 4 of larger diameter.

The method of employing the saggars thus constructed is as follows:—When the space left free between the walls of the saggar and the tube 1 has been filled with the necessary raw materials, the saggar is put into the furnace, the holes 3 and 4 being previously stopped by means of the closing plate 5 which fits between the edge 6 of the saggar and the projecting part 7 of the tube 1. Under these conditions it will be easily understood that the materials are heated at the same time from the edges of the saggar toward its center and from the sides of the tube toward the periphery, so that it may be said that the heating is at the same time

internal and external. At suitable moments, as indicated by experience, the closing plate 5 is removed and tubes or bars made of refractory earth are introduced through the holes 4. These tubes or bars make ducts in the material which run parallel to the axis of the saggar, through which ducts when these bars or tubes are withdrawn, the external air enters and thus insures the uniform oxidation of the whole mass. This oxidation is more or less accelerated by the more or less complete withdrawal of the tubes or bars, the small holes 3 enabling the products of combustion to be eliminated. This oxidation is suitably effected when the mass has acquired a temperature of 1800°.

What I claim and desire to secure by Letters Patent is:—

1. The method of making ultramarine consisting in providing an annular mass of the raw materials for making the same, applying heat interiorly and exteriorly to said annular mass, and admitting air into the said mass for oxidizing the materials.

2. The method of making ultramarine consisting in providing an annular mass of the raw materials for making the same, applying heat interiorly and exteriorly to said annular mass, momentarily forming ducts in said mass and introducing air therein for oxidizing said materials.

3. In apparatus for making ultramarine, the combination of an inner open-ended tube adapted to receive heating gases, an outer tube arranged to form a chamber around the inner tube, closures for the ends of said chamber provided with openings for receiving a working bar and other openings for venting the said chamber, and plates for closing said openings.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FERDINAND BELLET.

Witnesses:

H. C. COXE,
MIGUEL ZEROLO.