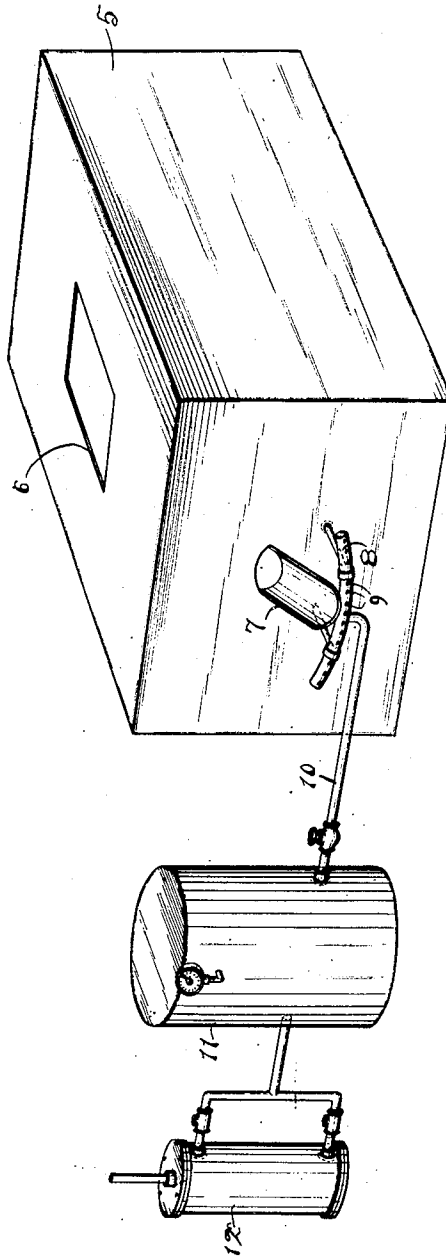


S. WIESTER.
METHOD FOR COOLING ENAMEL.
APPLICATION FILED JULY 2, 1917.

1,340,353.

Patented May 18, 1920.



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METHOD FOR COOLING ENAMEL.

1,340,353.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, STEFAN WIESTER, a citizen of the United States, and resident of Beaver Dam, in the county of Dodge and State of Wisconsin, have invented new and useful Improvements in Methods for Cooling Enamel, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to improvements in the method for cooling enamel.

Enamel is made from a number of different materials mixed together in a raw state and then heated in a high temperature furnace to form a molten mass. From the furnace the molten mass is discharged into a tank containing water which causes the molten mass to cool and harden and break up into small brittle particles. This method of cooling the enamel is called the wet process and is not very efficient due to the fact that in the rapid cooling and hardening the enamel loses substantially one-third of its coloring and becomes more transparent. This coloring loss is material in the manufacture as the metaloxids which produce the color and opacity in the enamel cost from \$0.59 to \$2.40 per pound and form ten to twelve per cent. of the molten mass. A further objection to the wet process is that the enamel loses its most desirable physical qualities of strength, elasticity, etc., and furthermore the wet particles have to be dried before being ground. The expense of drying forms a material portion of the cost of manufacture.

It is one of the objects of the present invention to overcome the before mentioned objectionable features and provide an improved method for cooling enamel in which the use of water is eliminated.

A further object of the invention is to provide a method of cooling enamel by means of air under pressure.

With the above and other objects in view the invention consists of the improved method for cooling enamel and its parts and combinations as set forth in the claims and all equivalents thereof.

In the accompanying drawing I have shown one means for carrying out the method.

Referring to the drawing the numeral 5 indicates a furnace which may be of any de-

sirable form and is provided with an inlet opening 6 and a discharge spout 7 from which the molten mass of enamel is discharged from the furnace. Positioned below the discharge spout is a transversely extending air pipe 8 provided with outwardly directed discharge openings or perforations 9.

A pipe 10 connected to the air pipe 8 extends to and is connected to an air tank 11 which is supplied with air under pressure by an air pump 12 or any other means desired.

In using the improved method for cooling enamel the enamel in a molten mass is discharged from the spout of the furnace and while being discharged the molten stream is subjected to the jets of air from the perforated air pipe positioned adjacent the spout. The pressure of the air jets against the molten stream will cool and separate the molten stream into small particles without changing the physical qualities of the enamel and thus maintain the color, strength and elasticity of the enamel.

From the foregoing description it will be seen that the improved method for cooling enamel is very simple and well adapted for the purpose described.

What I claim as my invention is:

1. A method of comminuting enamel to retain its physical elasticity and also its color and to eliminate separate drying, consisting of heating enamel to form a molten mass and then discharging the molten mass in a stream and subjecting the stream to a jet of air moving with sufficient rapidity to separate the molten mass into small particles and blow said particles a sufficient distance to cool the same to such an extent that they will not adhere together.

2. A method of comminuting enamel to retain its physical elasticity and also its color and to eliminate separate drying, consisting of heating enamel to form a molten mass and then discharging the molten mass in a stream in front of jets of air discharged under pressure and in a direction at an angle to the flow of the enamel, said air pressure being sufficient to separate the molten mass into small particles and blow said particles a sufficient distance to cool the same to such an extent that they will not adhere together.

In testimony whereof I affix my signature.
STEFAN WIESTER.