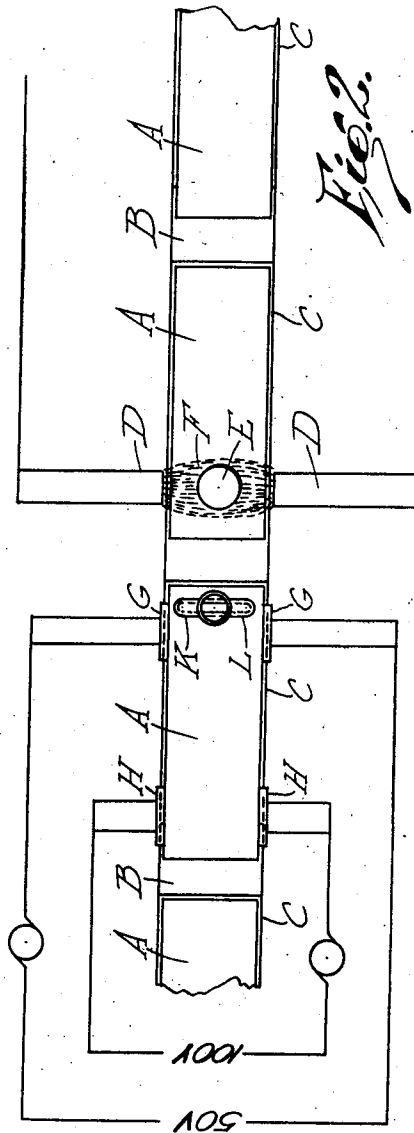
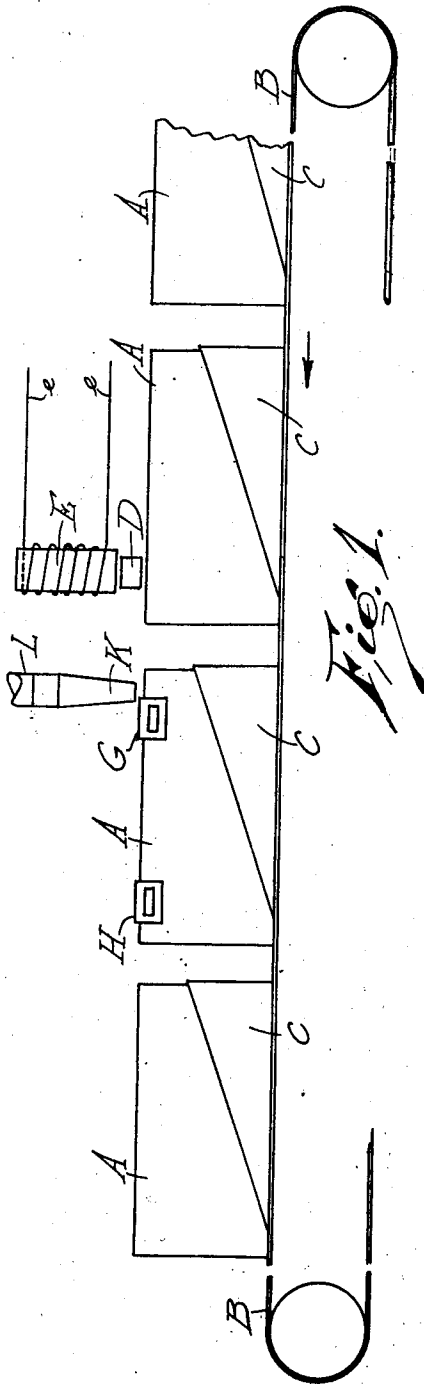


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A. FISCHER, JR
PROCESS OF GLAZING BRICK
Filed June 21, 1924



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ANDREW FISCHER, JR., OF CHICAGO, ILLINOIS.

PROCESS OF GLAZING BRICK.

Application filed June 21, 1924. Serial No. 721,497.

To all whom it may concern:

Be it known that I, ANDREW FISCHER, JR., a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Processes of Glazing Brick, of which the following is a full, clear, and exact description.

My invention relates to improvements in processes of glazing brick, and it consists in the steps hereinafter set forth.

An object of my invention is to provide a process of glazing brick which is more economical than those in ordinary use, since it obviates the necessity of much apparatus required in the ordinary process, being largely automatic and continuous.

A further object of my invention is to provide a process of glazing brick which is especially adapted for centers where cheap electrical power is available.

A further object of my invention is to provide a process which will turn out a more uniform product, since each brick is subjected to precisely the same treatment.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a diagrammatic view of one form of apparatus which may be used in carrying out the process, and

Figure 2 is a plan view of the apparatus shown in Figure 1.

In carrying out my invention I make use of the ordinary type of clay brick, that is to say, a low fusing brick which has been burned at a relatively low temperature. In Figure 1 these bricks are shown at A being carried by an endless conveyor B in the direction indicated by the arrow. This endless conveyor B may have sockets C for receiving and holding the bricks while being treated.

At D I have shown electrodes, preferably of carbon, the ends of which are disposed above and to one side of the bricks as they are borne along by the conveyor. A solenoid E is disposed above the brick in such a position as to act on the arc F as will be explained later. At G I have shown contacts which are designed to engage the upper edges of the brick as it is moved along. A

pair of these contacts is shown in Figure 2 as being included in a low voltage circuit. A second pair of contacts H is shown as connected in a high voltage circuit.

At K I have indicated a nozzle at the end of the pipe L.

From the foregoing description of the various parts of the apparatus the operation thereof may be readily understood. In carrying out the process the bricks are placed on the conveyor and are passed slowly underneath the arc F. This is preferably a low voltage arc, as for instance, six volts. The purpose of the solenoid E is to cause the arc F to be deflected down on the top of the brick which occurs when a magnetic field is created by the passing current through the conductors *e*. The heat of the arc causes incandescence of the upper surface of the brick and a partial fusion.

The heated brick passes on and just before it is engaged by the contacts G, the upper surface is treated by a blast of air carrying glazing material, such as oxides. When the brick reaches the contacts G, it has through the heat treatment become a conductor, and the current passes from one terminal G to the opposite terminal through the fused surface. This heats the surface highly and fuses the oxides, sulphates, or other glazing material. It is a peculiar property of this glazing material that as the temperature increases, the resistance increases, and in order to give time for the necessary fusion the second set of electrodes H is provided, which are in a circuit of higher voltage.

When the brick has passed the electrodes H, it may be transported to any suitable place, where it is allowed to cool.

The glaze produced by this process is uniform for all bricks because they have been subjected to the same conditions. The process, it will be observed, is continuous, and is partly automatic, that is to say, the movement of the brick itself into engagement with the terminals or contacts G and H causes the current to pass through the brick to heat it, so that when the apparatus is once adjusted, very little attention need be paid to it. This obviates the necessity of manually handling the bricks as where they are placed in retorts, treated, and then removed, as in the ordinary process of glazing brick. While I have shown an electric arc as the means of preheating the brick to bring it

into a condition to properly conduct the current which subsequently fuses the glazing material, it will be understood that such pre-heating may be accomplished by any suitable source of heat.

The projection of the glazing material by the air blast serves a double purpose, first, as a means of conveying the material, and second as a means of supplying oxygen for oxidizing certain of the constituents which enter into the glaze.

I claim:

1. The herein described steps in a process of glazing brick which consists in pre-heating the surface of a normally non-conducting brick to bring it into condition for conducting electricity, applying glazing material to the heated brick and fusing said material by the passage of an electric current through the surface of the brick and the glazing material.

2. The herein described steps in the process of glazing brick which consist in preheating the surface of a normally nonconducting brick to render said surface conductive, applying to the surface by means of an air blast glazing material, fusing said glazing material by passing a current through the brick, and said material, and subsequently passing a current of higher voltage to maintain complete fusion.

3. The herein described process of glazing a plurality of bricks which consists in heating said bricks successively to incandescence and partially fusing, applying glazing material to each of said bricks in succession, passing an electric current through the heated portions of the brick and the glazing material, whereby the glaze is effected, and subsequently allowing said heated glazed brick to cool.

ANDREW FISCHER, JR.