(No Model.)

H. F. BELCHER.

PROCESS OF MAKING MOSAICS OF GLASS.

No. 396,911. Patented Jan. 29, 1889.

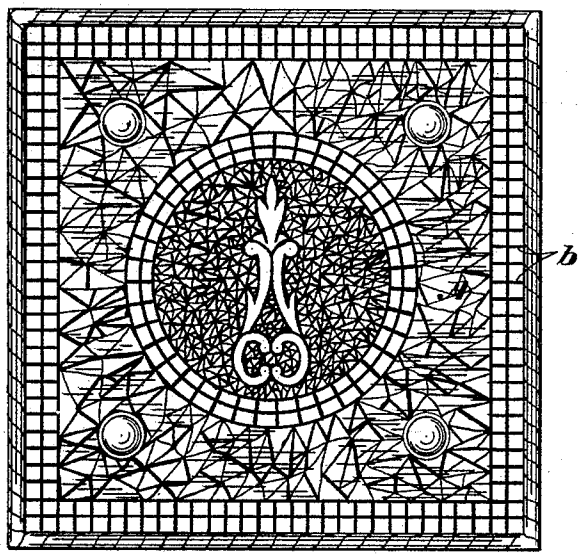


Fig. 1.

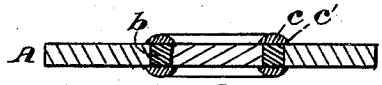


Fig. 2.

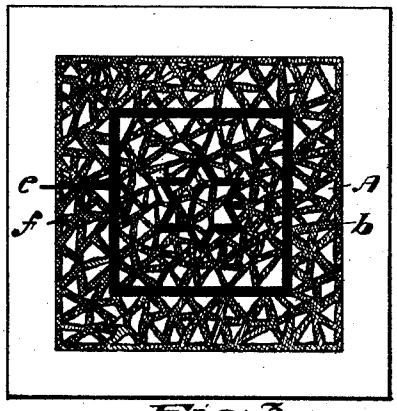


Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY F. BELCHER, OF IRVINGTON, NEW JERSEY.

PROCESS OF MAKING MOSAICS OF GLASS.

SPECIFICATION forming part of Letters Patent No. 396,911, dated January 29, 1889.

Application filed May 11, 1887. Serial No. 237,790. (No model.)

To all whom it may concern:

Be it known that I, HENRY FOSTER BELCHER, a citizen of the United States, residing at Irvington, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in the Process of Making Mosaics of Glass; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in the manufacture of mosaics of glass, either such as are described and claimed in prior patents granted to me August 12, 1884, and numbered 303,359, and May 5, 1885, numbered 317,077, or such as are produced by any of the ordinary methods of lead-glazing, the object being to secure greater strength, whereby the light or mosaic is better adapted to resist the force of wind or the effect of a blow, to receive a more perfect finish, and to receive a more perfect impermeability by closing all the minute perforations or blow-holes in the frame of the said mosaic.

The invention consists in the improved process of manufacture of mosaic of glass or other plates or pieces, substantially as will be hereinafter set forth, and finally be embodied in the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures. Figure 1 is a plan of a mosaic or light of glass. Fig. 2 is a sectional view of a portion of the same, and Fig. 3 is a plan showing more clearly certain peculiarities of the frame.

In said drawings, A indicates a series of plates, preferably of glass, though for some purposes they may be of other material, and *b* indicates a metallic frame for holding said pieces together. This is preferably a cast frame-work, such as is described in the prior patents above referred to. After the mosaic is formed by securing the plates in the frame-work, and the latter is cleaned so as to present a suitable surface to the electrolytic fluid, the frame with the plates is placed in a bath and connected with a galvanic battery or dynamo, and a heavy deposit, *c*, of copper is imposed on the frame, of sufficient thickness to fill imperfections in the frame. This deposit is caused to overlie the surface edges of the glass by covering the surface edges with a film of plumbago or other conducting material, and form a flange, *c'*, by means of which the glass or other pieces held by the frame are more securely fastened therein. When made in this manner, the mosaics are much lighter, more economical, and much more pleasing to the eye.

To obtain an ornamental effect in the frame, particularly apparent on the outside, or the light side, of the window, I prefer to deposit the coating of metal in two colors by making two deposits on the frame, one, *e*, in one kind of color of metal, such as copper, and the other, *f*, in a contrasting color, such as silver, or by depositing the metal on a portion of the frame, only leaving the other portions of the body metal of the frame uncovered to give the contrast. To this end I prefer to stop off certain parts of the frame or cover the same with a film of conducting matter—such as is commonly employed for stopping off in electroplating—and then plating the remaining parts so that an ornamental figure will be produced in the frame-work, contrasting with the unplated portions of said frame-work. The unplated portions may subsequently be plated with a deposit contrasting in color with the first deposit.

Having thus described the invention, what I claim as new is—

The process of manufacturing mosaics herein described, to wit: arranging glass or mineral plates in a separated relation to one another, casting a metal frame in the interstices between said plates or pieces, covering the surface edges of said plates with a thin coating of plumbago or other conducting material, and then electro-depositing a film of metal upon said covered edges and the metal frame, so as to form an overlapping flange to hold said plates or pieces in position, as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of May, A. D. 1887.

HENRY F. BELCHER.

Witnesses:

CHARLES H. PELL,

CONSTANCE H. BALDWIN.