

UNITED STATES PATENT OFFICE.

JOSEPH A. LUXHEIM, OF CHICAGO, ILLINOIS.

DECORATED GLASS.

SPECIFICATION forming part of Letters Patent No. 618,605, dated January 31, 1899.

Application filed June 6, 1898. Serial No. 682,764. (No specimens.)

To all whom it may concern:

Be it known that I, JOSEPH A. LUXHEIM, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Decorated Glass; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to a novel article of manufacture in the nature of decorative or colored glass stained or tinted by the use of the colors used in glass-painting, such as is used for windows, transparencies, and the like.

Decorated glass embodying my invention possesses the general characteristics of glass produced by the art of glass staining or painting, the same being painted to form decorative designs or pictures by the use of metallic colors which are fixed by firing, but being made in a single piece instead of being made or built up of a number of pieces, as is usual in the construction of ornamental windows and the like. Decorated glass made in accordance with my invention, moreover, is clear or smooth and in slight relief in parts of its surface and roughened or obscured in other parts of its surface, the glass being smooth upon lines forming parts of the design or picture and rough in parts forming other portions of the picture. All parts of the glass are colored or tinted, the smooth portions thereof, which are in relief, bearing a single tint of any desired color and the roughened parts being variously colored or tinted, while the smooth uniformly-colored portions in relief form the outlines of the design and constitute lines of separation or demarcation between the variously-colored and roughened portions. The smooth uniformly-colored parts in relief are, moreover, so located or disposed as to give the outlines or dividing-lines and more strongly accentuate the parts of the picture or design, while the roughened and variously-tinted parts include those spaces or surfaces which are variously tinted, as necessary for giving the desired artistic or decorative effect.

A sheet of glass possessing the features described affords a highly decorative and artistic appearance, for the reason that the portions thereof which are smooth and in relief appear to the eye to be much more strongly

accentuated than other parts, while those portions which are roughened give a soft and subdued coloring, due to the roughness or grain of the glass, it being found that the colors used in glass-painting when applied to a roughened surface such as is produced by grinding or the action of a sand-blast possess a softness or delicacy of tint of the kind obtained in water-color painting by the use of rough or grained paper.

Those parts of the glass which are smooth and in relief and which are colored or tinted by glass color fused or burned thereon are distinguished from other parts of the glass by presenting an appearance of greater brilliancy or strength of color, due to the smoothness and transparency of these parts, thereby affording a contrast to the more subdued effects produced by the roughened and tinted portions. Such parts which are transparent and in relief will, as above stated, form the outline of the design or picture and constitute lines of demarcation or separation between the tints applied to the roughened portions of the glass.

A decorated sheet of glass having the characteristics described may be used for various decorative purposes and is of special value for use in artistically-decorated windows or transparencies intended to be hung in windows or in like places where light is transmitted through them, the effect produced upon the eye in all cases being a design or picture having great clearness and exactness of outline, brilliancy and depth of color in the outlines or parts which it is desired to accentuate, and softness and delicacy of color in the intermediate colored spaces between the lines of the design.

A tinted or colored piece of glass possessing the features described may be produced in any manner found practicable or desirable, the method I prefer to employ consisting in first coating a sheet of glass with oil-color, then applying a coating of dextrine, then printing or transferring the outline of the design by waterproof transfer-ink over or upon the dextrine coating, then removing the dextrine coating by water except where protected by the waterproof transfer-ink, then subjecting the surface of the glass to the action of a sand-blast to remove the coloring-matter and

roughen the glass except where protected by the dextrine, then removing the dextrine from the lines of the design by the use of water, then tinting the roughened parts of the glass
5 between the lines of the design by the use of water-colors, and, finally, firing the glass to fix the colors. The above process is more fully described and claimed in a separate application filed simultaneously herewith.
10 In a sheet of glass colored by the application of the metallic colors used in glass-painting to the roughened surface of the sheet the same general effect is obtained in the roughened parts as is secured in painted glass by
15 the use of white pigment—namely, that of obscuring or softening the colors which would be too bright or glaring if painted in transparent colors on transparent glass. At the same time, however, the result is much su-
20 perior, because the roughened and tinted parts afford a color effect which is much more

clear, soft, and delicate than can be obtained by the use of obscuring-pigments on plain or transparent glass.

I claim as my invention—

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As a novel article of manufacture, a sheet of glass provided with a picture or design in a variety of fused colors, parts of the surface of which are smooth, transparent and in relief and other parts rough; the smooth or
30 transparent parts provided with an adherent, fused coating of color of uniform tint and the rough parts provided with a fused coating of blended or shaded colors.

In testimony that I claim the foregoing as
35 my invention I affix my signature, in presence of two witnesses, this 2d day of June, A. D. 1898.

JOSEPH A. LUXHEIM.

Witnesses:

FRANK LUXHEIM,
C. CLARENCE POOLE.