

UNITED STATES PATENT OFFICE.

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PROCESS FOR EMBELLISHING GLASS.

No Drawing.

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To all whom it may concern:

Be it known that I, PERCY EDWARD CORRELL, subject of the King of Great Britain and Ireland, residing at Sydney, in the county of Cumberland and State of New South Wales, Australia, have invented certain new and useful Improvements in Processes for Embellishing Glass, of which the following is a specification.

The object of the present invention is to procure in the embellishment of sheet or plate glass novel artistic effects not hitherto obtainable by so called glass "embossing," or by surface graining, or by other known methods.

It is already known that by treating one surface of a transparent glass sheet or plate with fluoric acid, or with "white acid," or by sand-blasting or grinding, pattern effects may be obtained. Patterns in a number of designs for advertising signs and for window decoration are thus made by part-treatment, using sand-blasting or grinding for certain lines and surfaces and another method for other lines and surfaces. But the effects so obtained are "flat" as they result from differences in surface characteristic only. According to the present invention, strong "relief" effects are obtained, characterized in that certain desired lines or areas show shadow margins and definite borders, with a pronounced suggestion of "depth" in a field surfaced to display the relief effect.

In carrying out the invention, the whole or part of the rear surface of a sheet of transparent glass is "frosted" by sand-blasting or by grinding or otherwise, to produce a ground. Then upon the frosted ground surface a pattern is incised in reverse by deep sand-blasting to a depth of one fortieth of an inch more or less using a resistant stencil as a guide. It is essential that the incised pattern shall have a frosted finish—this is attained by producing it by sand blasting. The incised pattern thus produced may consist of letters or figures or of a diaper or other design, and appears to the eye as if it were of very substantially greater depth than it is in fact.

In an alternative method of operation the deeply sand-blasted design may be produced first and the "frosted" field surface produced over the whole or a part of the area by subsequent treatment.

The super-posing of the deeply cut sand-blasted pattern on the frosted field surface, results in the production of characteristic light-and-shade effects which when viewed from the front of the glass are highly suggestive of true high relief embossing and are entirely distinct from the effects obtained hitherto, whether the pattern be observed by transmitted light or by reflected light. The pattern which is in intaglio on the back of the sheet of glass appears from the front of the sheet as if it were standing in high relief, pronounced shadow effects being obtained.

The best effect is obtained when the lines of the pattern engraving are concave in cross-section, that is to say when the engraved depth below the field surface is greater midway of the width of the pattern line than at and near its edges. This concavity in section is obtained readily by engraving the pattern lines by sand blasting through a stencil.

For the display of names, trade marks, or the like on vehicular or other lamp fronts, or on light-diffusing screens the method is particularly advantageous. The clarity and definition of the deeply blasted lines and their accentuation and display in contrast with the frosted field surface in apparent "relief" enables the display of small sized letters and figures and their linework patterns in a prominent and striking style. The artistic branding of articles of the kind indicated may be effected according to this invention rapidly and at low cost. For the embellishment of decorative panel-plates for translucent advertising and other signs, and for many other purposes the process is equally well adapted.

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

1. The herein described process of embellishing sheets or plates of transparent glass, which consists in treating the rear sides thereof by engraving a pattern thereinto and "frothing" the entire surface of the field and the pattern thereon.

2. A process for embellishing transparent sheet or plate glass which consists in deeply engraving on the rear surface of the glass a reversed pattern design in frosted lines and surfaces and treating the rear surface of the glass by forming a frosted field surface on it and on the pattern design thereby procuring

a display of the normal pattern design in apparent high relief on the front face of the glass.

3. The herein described process of embellishing sheets or plates of transparent glass, which consists in procuring the appearance of an embossed relief patterning on

the obverse face of the glass by producing reverse intaglio of said patterning in concave section lines on the reverse side of the glass and "frosting" portions of said reverse side including such patterning. 10

In testimony whereof I affix my signature.

PERCY EDWARD CORRELL.