

## UNITED STATES PATENT OFFICE.

PHILIP J. HANDEL, OF MERIDEN, CONNECTICUT.

## METHOD OF CHIPPING GLASS.

SPECIFICATION forming part of Letters Patent No. 775,818, dated November 22, 1904.

Application filed May 25, 1904. Serial No. 209,777. (No specimens.)

*To all whom it may concern:*

Be it known that I, PHILIP J. HANDEL, a citizen of the United States of America, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Methods of Chipping Glass, of which the following is a specification.

My invention relates to the method of ornamenting glass by chipping.

An ordinary method of ornamenting glass, porcelain, and articles having a similar surface has been to roughen the surface by a sand-blast and then applying a thin coating of a sticky substance, like glue, which upon being heated contracts and breaks off in small pieces, carrying with it a flake of glass.

The object of my invention is to open up a wider range for the ornamentation of glass and similar materials in this manner and also to decrease the cost of such ornamentation.

In describing my improved method I will do so with reference to the ornamentation of glass, although it is clear that the process is applicable to other materials having glazed surfaces.

In carrying out my invention I apply to the glass a thin coating of a mineral or vitrifiable paint. This coating is allowed to harden or is hardened by heat, preferably the latter. I then apply over this coating of paint a coating of sticky substance, such as glue. The glass with these two coatings is then subjected to a moderate heat, 80° being sufficient, which causes the coating of glue to contract. As a consequence it cracks up into small pieces and drops away from the glass, carrying with it the underlying film of paint, which being intimately united with the glass carries with it a thin flake of glass, leaving a spot having a frosty or crystalline appearance. The very slight ridges left on the glass denoting the bounding lines of the several small flakes which have been chipped off produce a fantastic pattern.

If it is desired to tint the glass with any particular color, a mineral paint of this color is selected, and it will be found that after the

baking has been accomplished a delicate tint is produced.

In decorating the design can be applied to the glass and then the mineral paint spread over such portions as desired and the other steps in the process proceeded with, as above described. It is generally preferable, and especially when tinting or decorating, to bake the article after the coating of mineral paint has been applied. Thus at the same time that the mineral paint which has been used for the chipping is being hardened the paints used for the design are being vitrified, it being of course understood that only such part of the article is to be covered by the glue as is to be chipped.

I am aware that this process of ornamentation is applicable to other materials than glass, and I am also aware that other substances than glue will accomplish the chipping effect desired. If when this process is used on glass it is desired to produce an article which shall have no color, the desired result can be obtained by washing the article in a hydrofluoric acid.

The advantages of this process over that where a sand-blast is relied upon to roughen the surface of the glass so that the glue will take hold are quite apparent, and my new process materially decreases the cost of this variety of ornamentation.

I claim as my invention—

The herein-described method of ornamenting glass and similar materials consisting in, first, applying to the surface thereof a coating of mineral paint and allowing it to harden; next, applying a coating of adhesive material and subjecting the article thus prepared to moderate heat for the purpose of causing the contraction of the adhesive material, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP J. HANDEL.

Witnesses:

ALBERT M. PARLOW,  
ALICE HILL.