

UNITED STATES PATENT OFFICE.

ANDREW J. HARRIS, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN PROCESSES OF JAPANNING SURFACES IN IMITATION OF TORTOISE-SHELL.

Specification forming part of Letters Patent No. **177,332**, dated May 16, 1876; application filed March 2, 1876.

To all whom it may concern:

Be it known that I, ANDREW J. HARRIS, of the city and county of Providence, in the State of Rhode Island, have invented a new and Improved Process for Finishing Enamel-Work in Imitation of Shell or Horn; and declare the following to be a specification thereof.

My invention relates to the enameling of surfaces in mottled colors to imitate tortoise or other shell, or the various kinds of horn. It consists in laying on a properly-prepared surface suitable pigments and clear enamel (or varnish) in alternate coats, and blending them together, while wet, by the violent swinging, shaking, or rotating of the article which is being ornamented.

The surface must first be finished in black enamel or japan, in the usual manner, or it may be merely painted in black or otherwise. I then lay on this surface, with a brush, a red paint, composed of carmine, lake, and western red, (or other reds of desirable shade,) in patches or daubs, in several places, as may be desired. While the paint is still moist, I immediately dip the article once or twice in a vessel or trough of clear enamel. The effect of this bath is to deaden the brilliancy of the color and give it good tone, and also to take away the sharp, rough edge of the paint which has been laid on. The articles are usually fixed upon a dipping-frame, if they admit of it, in the manner usual in enameling. I hold this dipping-frame with my hand at one end of the same, and then violently swing the frame vertically up and down several times. I then seize the frame by the opposite end and swing it again in the same manner. This motion causes the paint and enamel, which are in a semi-fluid condition, to mix and blend together, and to be spread out in irregular shapes in different directions and in varying shades. Upon this surface, while wet, I lay on, as before, a yellowish paint, of chrome-yellow and orange, (or if a light shell

or horn is to be imitated, a white paint mixed with chrome and orange.) I dip the whole again into the clear enamel, and swing the frame in both directions, as before described. The result is that all the paints and the enamel (being wet) are blended together into shades, more or less clouded and mottled, in close imitation of the spots and colors of natural shell or horn. The articles are then baked in an oven at the temperature and in the manner familiar to all enamels. When baked, they are again dipped in clear enamel for the final finish. This imparts a smooth clear surface, and gives an apparent depth or transparency to the colors beneath. They are again baked, as before, and the process is complete.

Varnish may be used in this process instead of clear enamel, and good results will be obtained. I, however, prefer the enamel, because of the better tone secured thereby.

Instead of baking the enamel or varnish, it may be dried by air, the only difference being in the time required.

Surfaces such as of agate, cornelian, or any other having a smooth finish and a clouded or mottled appearance, may be successfully imitated by this process by using, instead of the colors above specified, such others as will give the required shades.

I claim as a novel and useful invention, and I desire to secure by Letters Patent—

The process of finishing enameled, japanned, or painted surfaces in imitation of shell, horn, or other substances of clouded and mottled appearance and colors, by means of alternate coatings of pigments and enamel, or varnish, spread and mingled by means of a violent swinging or other suitable motion given to the article, and then baked or otherwise dried and finished, substantially in the manner specified.

ANDREW J. HARRIS.

Witnesses:

FRANK H. ARMSTRONG,
WARREN R. PERCE.