

UNITED STATES PATENT OFFICE.

GEORGE LA MONTE AND GEORGE G. SAXE, OF NEW YORK, N. Y.

IMPROVEMENT IN FIGURE-TINTED PAPER.

Specification forming part of Letters Patent No. 123,782, dated February 20, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that we, GEO. LA MONTE and GEO. G. SAXE, of the city, county, and State of New York, have invented a new and useful Improvement in Figured Paper; and we do hereby declare the following to be a full and correct description of the same.

Paper is ordinarily figured by water-marks in the course of manufacture, which render the paper thinner in the figured parts than in the plain portion. Figures are also sometimes impressed by embossing or printing after the paper is finished.

The object of our invention is to figure the paper by tinting in various shades or depths of color for purposes of ornamentation as well as to facilitate the discovery of fraudulent alterations by rendering the fugitive tints more difficult to restore after removal by erasure or chemicals. It is obvious that an elaborate figure would be more difficult to reproduce than a plain uniform tint.

Our process of figure-tinting may be thus described: The sheet is passed through a vat of coloring-liquid, and thence between two rollers, which press out the superfluous liquid as in the process of sizing. We engrave the surface of one or both of these rollers with any desired figure or design, and such figure or design is transferred to the paper in different shades of color.

The following is a description of our process more in detail: The pulp is white, and is formed into a continuous sheet in the usual way. After passing over a number of heated cylinders for the purpose of drying, it descends and passes around a cylinder immersed in sizing, composed of glue and water, and, rising, passes

between a wooden and a brass roller, by which all superfluous sizing is pressed out. The paper is then, by the ordinary method, dried and calendered.

Our figure-tinting is accomplished in one of two ways: First, by coloring the sizing to any desired tint and passing the sheet while moist with the colored sizing between a plain wooden roller and a brass roller engraved with the design or devices it is desired to reproduce upon the paper. The raised portions of the roller will press out most water and cause the absorption of most color, thus leaving the parts of the paper subjected to their action of a dark tint, while the depressed portions will retain more water and impart a lighter shade. When the paper is of ordinary thickness the figure will show on both sides.

For sensitive figure-tinting we use the following method: After the sheet has passed through the ordinary white sizing and has been pressed between rollers in the usual way, it is made to pass under a small cylinder immersed in the sensitive coloring-fluid, and is then passed between the plain wooden roller and the engraved metallic roller, as before described. It is then dried and calendered for use.

What we claim, and desire to secure by Letters Patent, is—

A paper figured in the process of tinting by means of engraved rollers, substantially as described.

The above specification of our said invention signed and witnessed at New York this 29th day of December, A. D. 1871.

GEO. LA MONTE.

GEO. G. SAXE.

Witnesses:

L. J. McKENNA,

WM. F. LETT.