

# UNITED STATES PATENT OFFICE.

JOHN BONGARDT, OF BROOKLYN, E. D., NEW YORK.

## IMPROVEMENT IN FIXING WATER-COLORS ON PAPER.

Specification forming part of Letters Patent No. **196,422**, dated October 23, 1877; application filed August 15, 1877.

*To all whom it may concern:*

Be it known that I, JOHN BONGARDT, of Brooklyn, E. D., county of Kings, and State of New York, have invented a new and useful Improvement in Fixing Water-Colors on Paper, which improvement is fully set forth in the following specification.

This invention consists in treating water-colors, after the same have been applied to paper, with a mixture of glue and alum, or other mordant, which, when mixed with glue, will render the same insoluble in water, and at the same time serve to fix the colors on the paper, so that the colored surface of the paper can be washed without requiring to be protected by a coat of varnish or other material generally employed for this purpose.

In carrying out my invention, I apply to the surface of the paper the desired water-colors, by any of the well-known processes—such, for instance, as are generally employed in the manufacture of wall-papers and fancy papers. If it is desired to render such papers washable, the usual practice is to apply to their colored surface a coat of varnish; but such application is not only expensive, but in many cases it is objectionable on account of the effect produced by the varnish.

Instead of using varnish, therefore, I apply to the colored surface of the paper a solution of glue and alum, the glue being dissolved in water and then mixed with alum in about the following proportion: glue, one pound; alum, four ounces.

By the action of the alum the glue is rendered insoluble in water, and, furthermore, the alum, when brought in contact with the water-colors and the paper, acts as a mordant whereby said colors are firmly combined with the fibers of the paper.

Instead of alum, other mordants can be employed—such, for instance, as chloride of tin, acetate of tin, acetate of iron, or other materials of a similar nature which have an affinity for the fiber of the paper, and also for the pigments, and which, at the same time, render the glue mixed with the same insoluble in water.

By my process the appearance of the colored surface of the paper remains unchanged, while at the same time said surface is rendered capable of being washed with water.

What I claim as new, and desire to secure by Letters Patent, is—

The process of fixing water-colors on paper by treating the surface of the paper, after the colors have been applied thereto, with a mixture of glue and alum or other equivalent mordant, substantially in the manner herein shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 13th day of August, A. D, 1877.

J. BONGARDT. [L. S.]

Witnesses:

W. HAUFF,  
J. D. PATTEN.