UNITED STATES PATENT OFFICE.

JOHN HENRY LANGE, OF NEW YORK, N. Y.

ORNAMENTING THE SURFACE OF PAPER, CLOTH, &c.

SPECIFICATION forming part of Letters Patent No. 343,379, dated June 8, 1886.

Application filed April 21, 1886. Serial No. 199,678. (Specimens.)

To all whom it may concern:

Be it known that I, JOHN HENRY LANGE, a citizen of the United States, and a resident of New York city, New York, have invented a new and useful Improvement in Ornamenting the Surface of Paper, Cloth, and other Fabrics or Materials; and I hereby declare that the following is a full, clear, and exact description of the same.

My invention is applicable to the coloring or ornamenting of paper, cloth, and other fabrics or materials for wall-hangings, coverings of fancy boxes, window-shades, and a great variety of useful and ornamental purposes; and it consists in the use of a composition of bronze or brocade, gum-starch, or some other equivalent adhesive translucent substance, pulp-color, water, and in some cases talc, applied to the surface of plain or ornamented fabrics or materials, which surface may then be printed upon as readily as what is known as a "water-color" ground or surface.

My invention relates to what are known as "metallic-color grounds or surfaces" for wall-papers or other fabrics, upon which an additional design may be and usually is afterward printed. Such metallic-color grounds or surfaces as have been hitherto used have been made generally by combining powdered bronze or brocade with some gummy material, and then applying this composition to the paper or other fabric. In this old process the color and the general effect and appearance of the paper or other fabric were caused by the bronze and by that alone. To produce any satisfactory results large quantities of bronze had to be used, which made the fabric, when finished, expensive.

In carrying out my invention, I take fourteen pounds of bronze and add to this gradually six pounds of gum-starch and mix these together thoroughly. Then I add thirty-three pounds of pulp-color and mix the whole together again thoroughly and reduce the resulting mixture down to the consistency desired by using warm water. The required proportions of these different substances vary somewhat with the shade of color desired. This composition of matter is then applied to the paper or fabric in the usual way—that is, by a grounding-machine or by brushes, and when this has been done a paper or fabric is produced with a metallic-color ground of a richer and finer appearance and of greater variety and delicacy of shade than anything hitherto known or produced in the art, and all this at less cost than the cost at which the old and inferior metallic grounds were formerly made.

In producing the lighter-colored metallic grounds I find I can still further reduce the amount of bronze required by adding to the composition already described another element—namely, talc—and as talc is a comparatively cheap material, the expense of these lighter-colored metallic grounds is thus still further reduced. In the latter composition the talc has the effect of giving a sheen to the surface, and as the bronze has therefore only to produce a metallic appearance, and is not relied upon so exclusively to produce the sheen, less bronze is required and the expense consequently reduced.

When talc is used, my composition may be made as follows: I take ten pounds of talc and mix with this a sufficient quantity of what is known in the trade as "gum-starch," or any translucent adhesive substance to make the resulting mixture of the consistency of printers' color. To this I add fourteen pounds of bronze or brocade, the shade of bronze depending upon the particular color or shade of surface desired. Then I add to the above twenty-eight pounds of water and two pounds of liquid starch or gum. The various ingredients must then be thoroughly stirred and mixed together. After this fifty pounds of pulp-color are added, the shade or nature of the color depending upon the color of surface desired. The whole should then be again thoroughly mixed and combined.

In the old metallic-color grounds the entire coloring was produced by the bronze, which fact limited the range of shades attainable and made the process and product expensive. By my invention I am enabled to substitute pulp-color—a cheaper material—for a large fraction of the bronze, and yet retain all the good effects of the bronze, and in addition secure a practically unlimited variety of shades as the direct result of the combination of the pulp-color with the bronze. My color-ground also can be printed upon as readily as the ordinary water-color ground.

I prefer the proportions above stated; but as

the essence of my invention lies in producing a colored ground on paper or other fabric by a combination of bronze and coloring-matter with or without talc, the production of such a colored ground by a combination of bronze and coloring-matter in any proportions, either with or without talc, would come within the scope of my invention. In like manner chemical equivalents might be employed without departing from my invention.

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

1. The process herein described for ornamenting the surface of paper, cloth, and other materials, by coating them with a composition of gum-starch or any other equivalent translucent adhesive substance, bronze, pulp-color, and water, substantially as and for the purposes set forth.

2. A fabric, such as paper, cloth, or the like, having a color-ground produced upon it by a composition of gum-starch or any equivalent adhesive translucent substance, bronze, water, and pulp-color, substantially as and for the purposes set forth.

3. The process herein described for ornamenting the surface of paper, cloth, and other materials, by coating them with a composition of gum-starch or any other equivalent translucent adhesive substance, bronze, talc, pulp-color, and water, substantially as and for the purposes set forth.

4. A fabric, such as paper, cloth, or the like, having a color-ground produced upon it by a composition of gum-starch or any equivalent translucent adhesive substance, bronze, talc, water, and pulp-color, substantially as and for the purposes set forth.

JOHN HENRY LANGE.

Witnesses:

ROBERT N. KENYON,

EDWIN SEGER.