UNITED STATES PATENT OFFICE.

ARCHIBALD W. PAULL, OF WHEELING, WEST VIRGINIA.

ART OF DECORATING STONEWARE.

SPECIFICATION forming part of Letters Patent No. 539,187, dated May 14, 1895.

Application filed September 14, 1894. Serial No. 522,996. (No specimens.)

To all whom it may concern:

Be it known that I, ARCHIBALD W. PAULL, of Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Improvement in the Art of Decorating, of which the following is a full, clear, and exact description.

The object of my invention is to provide a method for the decorating of stoneware or other ware which cannot be immersed in a liquid in the removal of the paper carrying the pattern.

The transfer of patterns to certain wares has hitherto been impracticable, as a liquid must be applied to remove the pattern-bearing paper, and this liquid entered at the "stilt marks" and other points and ruined the article. My invention overcomes this difficulty and is an improvement upon the method set forth in my copending application, Serial No. 501,428, filed February 24, 1894.

In practicing my invention in what I consider its best form, I proceed as follows: Having covered the surface of the paper with a soluble coating, which may be either soluble in water, such as gum arabic, starch or paste, or which may be a substance like pyroxyline varnish, soluble in alcohol and ether or other liquids, I print upon said coating in vitrifiable colors the design or pattern to be transferred. I then apply to the surface of the printed paper a sheet of thin tissue-paper or suitable pliable fabric, preferably paraffined tissue-paper such as that used commonly for wrapping caramels, securing the surfaces together by a coating of material which is liquefiable by heat, such as paraffine, beeswax, or suitable gums, which may be applied either to the pattern or the tissue-paper, but preferably the former; preferably by rubbing a cake of the paraffine, &c., over the surface. Paraffine is very easy to apply and it gives excellent results, so that I deem it preferable to use and intend to claim it specifically, though the broader claims are not limited to its use. As the various substances which can be used successfully as equivalent for paraffine are liquefiable by heat or are of a nature which while sufficiently adhesive to hold the pattern temporarily, are less adhesive than the substance by which the pattern is held to the ware. I use these terms in the claim to define them. The last named coating must not be soluble, at least in the solvent employed for the coating upon which the print is made. Having thus applied the tissue-paper to the pattern, I attack the first coating by its solvent and thus loosen and remove the thick paper, leaving the pattern in colors upon the tissue-paper, or fabric, held thereto by a substance which may be liquefied on the application of heat. This attacking of the first coating is preferably done by immersing the paper in the solvent, first rolling the attached papers into cylindrical form, the pattern-bearing paper being on the outside of the roll. The pattern is then transferred to the surface to be decorated by coating the latter with an adhesive material such as gelatine, which will not liquefy under heat, or, at least, will not become liquid at the degree of heat necessary to loosen the pattern from the tissue-paper, or fabric. The tissue-paper being then easily fitted to the article, it may be removed in any of the following ways: The article may be subjected to a low degree of heat which liquefies the paraffine or other substance between the pattern and the paper, leaving the pattern adhering to the film of gelatine on the ware; or the outside of the paper may be rubbed with turpentine, and this, loosening the paraffine, permits the paper to be drawn off; or by allowing the paper to remain on the ware for a sufficiently long time to permit the gelatine to become hard, say for two days or more, the paper may be lifted off, for the paraffine remains soft and has less adhesiveness than the hardened glue. The pattern having been transferred to the ware by any of these modes, the ware is then fired in the usual way to vitrify the colors and to fix the pattern.

Instead of removing the paper as above stated, I may leave it upon the ware, and when the latter is put into the decorating kiln the melting of the paraffine will free the paper, permitting it to drop off, or to be destroyed by the fire.

The advantages of my invention result from the fact that it may be employed with porous wares which cannot be immersed in a liquid, giving a simple and effective method for decorating the same.

I claim—

1. The method of decorating, which consists

in printing the pattern upon a body having a soluble coating, applying it to a second pliable material by means of a coating of a substance liquefiable by heat, dissolving off the first named body, applying the pliable material to the ware, and removing the pliable material; substantially as described.

2. The method of decorating, which consists in printing the pattern upon a body having a soluble coating, applying it to a second pliable material by a coating of a substance liquefiable by heat, dissolving off the first named body, applying the pliable material to the ware, and heating the ware to remove the pliable material; substantially as described.

3. The method of decorating, which consists in printing the pattern upon a body having a soluble coating, applying it to a second pliable material by a coating of a substance liquefiable by heat, dissolving off the first named body, applying the pliable material to ware provided with a coating which does not liquefy by the heat applied for removing the pliable material, and then heating the article; substantially as described.

4. The method of decorating consisting in producing the pattern upon a surface, applying a second surface to the pattern by means of a substance liquefiable by heat, removing the first surface and then applying the pattern to the article and removing the second surface; substantially as described.

5. The method of decorating, which consists in printing the pattern upon a soluble coating mounted on a surface, transferring it to a second surface by means of paraffine, and then applying the pattern to the article and removing the surface; substantially as described.

6. The method of decorating, which consists in printing the pattern upon a body having a soluble coating, transferring it to a second surface by means of an adhesive substance, applying the surface to the article by an adhesive material of greater tenacity than the adhesive substance first named, and then removing said surface and leaving the pattern upon the article; substantially as described.

In testimony whereof I have hereunto set my hand.

ARCHIBALD W. PAULL.

Witnesses:
W. B. CORWIN,
H. M. CORWIN.