

# UNITED STATES PATENT OFFICE.

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## MODE OF PREPARING PAPER FOR PHOTOGRAPHIC USE.

Specification forming part of Letters Patent No. 51,010, dated November 21, 1865.

*To all whom it may concern:*

Be it known that I, JOHANNES DE WITT BRINCKERHOFF, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Preparing Paper and the Surfaces of other Materials for use in Photography; and I do hereby declare the following to be a full, clear, and exact description of my said invention and of the features that distinguish the same.

The paper usually employed in photography is of a porous and fibrous nature, and in being passed through the solutions that are employed in the production of the photographic image the picture loses its force and brilliancy in consequence of its sinking into the tissue of the paper. Albumenized paper has also been employed, and, although the image does not sink into the tissue, there is an objectionable gloss and harshness to the picture. With the first-named paper the image is liable to fade and become discolored in consequence of the difficulty of entirely removing, by washing from the porous paper, the substances that subsequently cause the picture to fade. With the albumenized or non-absorbent paper difficulty is experienced in applying colors, because they remain upon the surface of the paper, giving an objectionable harsh appearance.

The object of my invention is to produce a surface upon paper or other material that is of a fine cellular character adapted to the reception of photographic pictures, said surface being sufficiently absorbent to receive the image, but not to lessen its brilliancy, bearing out and producing all the strength of detail in the picture without the unpleasant gloss and harshness of pictures on albumenized paper, at the same time said surface is of a nature to receive either oil or water colors; and when employed in photography, said paper or surface is not dissolved by the solutions made use of, and hence can be freed with facility by washing from the substances which, if they remained, would injure the picture or cause it to fade.

I make use of a thin solution of gelatinous materials and kaolin or terra-alba, which I prefer to employ hot, which solution penetrates

the pores of the paper or other material being prepared. I then submit the said material to the action of an astringent, such as alum or tannin, which, combining with the gelatinous material, forms a fine cellulosed surface that is insoluble in the solutions employed in photography, and which, penetrating the pores of the paper, fills them, and also produces an even, smooth surface, by enveloping and holding down any fibers that otherwise might stand up on the surface of the paper. I take French gelatine or other material of a gelatinous nature and soften the same by soaking it in water, and then heat the same by a water or steam bath to completely dissolve it, using about three ounces of gelatinous material to a gallon of water. To this I add about six ounces of kaolin or terra-alba or other material, according to the color required, mix the same thoroughly, and strain it. Into this solution, while hot, the paper or other material to be prepared is dipped and then allowed to dry, or partially dry. I take a saturated solution of alum and dilute the same with two parts of water to one of said saturated solution, and submerge the paper or other material in the same for about five minutes, and then remove and dry the same in any convenient or desired manner, and the material will be found to possess the fine cellular character before mentioned.

The proportions of the materials may be varied, if required, for any particular character of paper or surface to be produced, and tannin or any other astringent substance that will act on the gelatinous material might, under some circumstances, be employed in place of alum.

The paper prepared in the aforesaid manner is much stronger than before being prepared, and, not being dissolved by the solutions employed in photography, is much more easily manipulated in the subsequent process of toning and fixing the picture, and the washing can be performed much more easily and perfectly than heretofore, because the solutions employed do not become so much incorporated in the paper.

The surface prepared in this manner has an appearance somewhat resembling finely-

ground porcelain, and is equally effective in rendering the picture clear and handsomely developed, without the risk of being broken that exists with pictures on porcelain.

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

The method herein specified of preparing paper and the surface of other materials for

use in photography, for the purposes and substantially as specified.

In witness whereof I have hereunto set my signature this 2d day of October, A. D. 1865.

J. DE WITT BRINCKERHOFF.

Witnesses:

CHAS. H. SMITH,

GEO. D. WALKER.