UNITED STATES PATENT OFFICE.

W. H. SMITH, OF LONDON, ENGLAND.

IMPROVEMENT IN PHOTOGRAPHY.

Specification forming part of Letters Patent No. **50,544**, dated October 17, 1865.

To all whom it may concern:

Be it known that I, WILLIAM HENRY SMITH, of No. 12 St. Ann's Gardens, Queen's Road, Haverstock Hill, in the city of London, England, have invented a new and Improved Method of Photography; and I do hereby declare that the following is a sufficiently full and exact description thereof to enable any person skilled in the art to practice and perform the same.

This invention consists in the preparation of wood, glass, canvas, silk, ivory, and other substances and fabrics by the operation following, to wit: First, make a solution of velata, gutta-percha, or india-rubber dissolved in benzole or other hydrocarbons, consisting of twelve grains of velata to one ounce of benzole; or, second, a solution of ten (10) parts gelatine and three hundred (300) parts water, according to the kind of wood or fabric or subject to be operated upon. Taking the more suitable solution of the two above mentioned, and coat the substance until a smooth surface is obtained. Next take or make a solution of two hundred and fifty (250) parts water, ten (10) parts gelatine, five (5) parts honey, and allow it to decompose, in which is to be dissolved two (2) grains chloride of calcium and eight (8) grains nitrate of silver, which forms a gelatinous chloride of silver. With this the wood or other substance is to be coated, and when dry is to be printed in the usual way paper is, and then tone and fix in the ordinary baths; or flax or linen may be taken and made into a collodion in the following manner, to wit: Take a boiling caustic alkali and dip the flax or linen in it for one second, and then plunge it into boiling water two or three times, and when dry make a pyroxyline at a temperature of 150° and another at 100°. Then dissolve in equal parts of ether and alcohol, six (6) grains to the ounce. Mix the two together. Separate the bulk in two parts, and in one-half dissolve two and a half ($2\frac{1}{2}$) grains of chloride of calcium, one (1) grain citric acid to the ounce, and in the other half dissolve eight (8) or ten (10) grains of nitrate of silver, and add the silver to the chloride; and when amalgamated coat the material intended to be photographed upon, and then dry, expose, and print, as described above.

For opal glass or ivory, first coat the glass or ivory with velata solution described above. Next take plain collodion and dissolve in it four (4) grains chloride of cadmium, three (3) grains tincture of iodine, one (1) grain citric acid. Coat the object or substance, sensitize in a forty (40) grain bath nitrate of silver, and while still wet pour on it a warm solution of gelatine, ten (10) parts; honey, five (5) parts; water, three hundred (300) parts; and when dry print and tone as above described.

To prepare canvas or wood panel for the reception of photographic impressions for artists, take two hundred and fifty (250) parts water, ten (10) parts gelatine, and best-washed whiting as much as necessary. Add a small quantity of grease, oil, or gelatine. Apply this to the canvas or panel with a brush till a body is obtained, then smooth with pumice-stone and water, and when dry coat with either the above-named sensitive solutions, and print either in contact with the negative or in the solar camera.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

Preparing wood, glass, silk, ivory, and other substances for the reception of photographic pictures or impressions, substantially as described.

W. H. SMITH.

Witnesses:

THOMAS LAKE,

JOHN HARRISON,

Both of No. 17 Gracechurch Street, London.