

# UNITED STATES PATENT OFFICE.

ANDREW ROTH, OF NEW ORLEANS, LOUISIANA.

## IMPROVEMENT IN PROCESSES OF PRINTING PHOTOGRAPHIC PICTURES.

Specification forming part of Letters Patent No. **197,410**, dated November 20, 1877; application filed September 4, 1877.

*To all whom it may concern:*

Be it known that I, ANDREW ROTH, a resident of the city of New Orleans, parish of Orleans, and State of Louisiana, have invented a certain new and useful Improvement in Printing Photographic Pictures; and I do hereby declare the following to be a full, clear, and correct description of the same.

This invention relates to a process for printing photographic pictures, either direct from the plate or by first transferring them to a lithographic stone, so as to enable a lithographer, with the utmost accuracy, to reproduce the same thereupon, thus admitting of the printing of any number of pictures, all of which shall possess the soft light and shade of the original photograph.

My invention consists in the preparation of a solution made by heating or boiling together about one ounce of chrome-gelatine, nine grains tannin, and six grains rosin in about one dram of alcohol, to which is afterward added a mixture of, say, five grains honey-soap, previously dissolved in about one dram of hot water.

This solution is spread over a perfectly-smooth photographic zinc plate, which is afterward thoroughly dried and treated with a sensitizing solution, consisting of one ounce bichromate of potassa and fifteen ounces of cold water. The said plate is next slowly dried over a heated surface of metal, after which the picture is produced thereupon from a negative, in the usual manner. The bichromate of potassa is next all washed out, and ink is applied by means of a soft roller, and the printing done in a lithographer's press.

If the ink is stiff I mix with about three parts thereof, say, one part of palm-oil, and then thin with turpentine or olive-oil, which is added drop by drop, until the proper consistency is obtained. If the ink is too thick it will only take in the deep parts; but if the proper consistency is obtained, it will take to the finest as well as the deepest shades.

A certain amount of care must be exercised in the printing from the negative, for if the plate is heavily printed it will take too much ink, while if, on the contrary, the print is but light, the soft shades will not be brought out at all.

The preparations above mentioned should be used fresh, and the plate, when not in use, should be kept in a dark room, particular care being taken not to let any acid reach its surface.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The process herein described of printing photographic pictures on paper, stone, or other material, the same consisting in coating the plate before sensitizing with a preparation composed of gelatine, tannin, rosin, alcohol, honey-soap, and water, about in the proportions named, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand.

A. ROTH.

In presence of—  
A. MERCADAL,  
F. MIQUET.