

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN PHOTO-MECHANICAL PRINTING.

Specification forming part of Letters Patent No. **217,981**, dated July 29, 1879; application filed December 10, 1878.

*To all whom it may concern:*

Be it known that I, LYMAN G. BIGELOW, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Photo-Mechanical Printing, which improvement is fully set forth in the following specification.

The object of my invention is to produce permanent ink-pictures from photographic negatives.

I first proceed to flow over a plate which is suitable a solution composed of albumen, one (1) part; silicate of soda or potash, three-fourths part; and of water, two (2) to four (4) parts. When this coating is dry, I again coat the plate with a solution of gelatine, one ounce; calf's-foot jelly, one-half ounce; alcohol, eight to twelve ounces; bichromate of potassium or ammonia, one (1) to two (2) drams.

The solution of all the ingredients is fully accomplished by heat, if necessary. It is then filtered and poured over the plate as prepared by the first formula.

A thin coating is given, which may be dried in a hot-air chamber, or by a current of air at ordinary temperature, care being taken to admit no white light to the plate. When dry the plate is ready to expose in a printing-frame under the negative. An exposure about

equal to a silver print is given, when the plate is taken from the frame, and well washed to free it from the sensitizing salts. The plate is now freed from surplus moisture, and laid upon the bed of the printing-press. It is now inked with a roller coated with lithographic ink. The paper is laid upon the plate, and put under moderate pressure. The paper is now removed from the plate, when it will be found to have upon its surface a complete picture of the subject of the negative. The plate is again dampened, inked, and the impression pulled as before, &c.

The printing is conducted precisely the same as for lithographs.

I claim as my invention—

The process of preparing photographic plates for printing from by mechanical means, which consists in first coating a glass plate with a solution of albumen, silicate of soda, and water, then drying the same and applying a second coating of gelatine, calf's-foot jelly, alcohol, and bichromate of potassium or ammonia, substantially as described.

LYMAN G. BIGELOW.

Witnesses:

THOS. S. SPRAGUE,  
H. S. SPRAGUE.