

UNITED STATES PATENT OFFICE.

N. M. BUFFINTON, OF FALL RIVER, MASSACHUSETTS.

MODE OF PREPARING STONE FOR POWER-PRINTING.

Specification forming part of Letters Patent No. 54,499, dated May 8, 1866.

To all whom it may concern:

Be it known that I, N. M. BUFFINTON, of Fall River, in the county of Bristol and State of Massachusetts, have invented, made, and applied to use certain new and useful Improvements in the Preparation of Stone for Power-Press Printing, and that the same may be used for the production of stereotypes and electrotypes; and I do declare the following to be a full, clear, and correct description of my invention.

The nature of my invention consists in so treating and preparing blocks of stone that the same may be used in power-press printing as substitutes for blocks of wood, metal, or other substances, and also admit of the production of stereotypes or electrotypes, if desired.

To enable others skilled in the arts to make and use my invention, I will describe the same.

I employ a block of stone such as is usually used for lithographic purposes, and render the face of the same perfectly smooth. The design which is required to be printed is then drawn or depicted upon the face of the stone by the employment of a pen and lithographic ink, or any proper means. I now cover the engraving or drawing on the face of the stone with a layer of pulverized rosin, followed by a layer of sulphur. The portion of the stone not covered by the design is eaten out or away by nitric acid or any acid that will effect the purpose, the acid being applied by means of a brush, and care being taken that the acid does not come in contact with the design drawn or depicted upon the stone.

By this process the drawing originally made upon the stone is left, forming a raised surface, from which impressions may be taken.

When it is desired to produce stereotypes or electrotypes from the stone thus prepared, the matrix for the same is formed of paper, an impression being taken in the same from the stone.

The peculiar advantages resulting from the

employment of my invention are that I am enabled to employ in letter-press printing or upon the ordinary printing-press a block very much superior to any heretofore used for the production of impressions. Wood-cuts shrink. Stereotypes blocked on wood are open to the same objection; but stone is unaffected by the weather.

By the use of my invention for color-printing, or printing in many colors, great accuracy and exactness of register—that is, the striking of one color directly over the other—is obtained. Again, all lithographers are obliged to wet the stones employed by them in printing, and the process of lithographic printing is exceedingly slow, very frequently not exceeding the production of three hundred (300) impression a day. The wetting of the stones employed by them has a tendency to weaken the inks used, so that the colors obtained are not as brilliant and true as results from the use of my invention, where no necessity for wetting the stone exists, thus preserving the colors in their original brilliancy and beauty, while I add the great advantage of printing beautifully and rapidly, thus greatly cheapening color-printing. Aside from the rapidity of impressions gained, I find the cost of producing blocks reduced fully one-half, as after the first block has been produced the cost of succeeding ones or duplicates is merely nominal.

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

Preparing stone, substantially as herein described, so that the drawing, lettering, or design upon the same may be used for letter-press printing, and that stereotypes and electrotypes may be produced from the same.

N. M. BUFFINTON.

In presence of—

A. SIDNEY DOANE,
C. O. GORDON.