

UNITED STATES PATENT OFFICE.

JNO. McELHERAN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PICTURE-TYPES.

Specification forming part of Letters Patent No. 19,645, dated March 16, 1858.

To all whom it may concern:

Be it known that I, JOHN McELHERAN, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Preparing Picture-Types; and I hereby declare that the following is a full, clear, and exact description of the same.

The object of this invention is to produce lined or granulated picture-types by depositing the metal by electrical action in a matrix prepared in the manner hereinafter described, whereby certain artistic effects may be produced with rapidity and without difficulty, which in the ordinary process require great skill, labor, and time. This process also renders the lines of the drawing in alto similar in this respect to engraving on wood, and the impression may be taken on the ordinary letter-press, together with the text, if desirable.

To enable others skilled in the art to make and use my improvement, I shall now proceed to give a detailed description of the same and of the *modus operandi*.

A smooth and level plate of transparent material—glass, for instance—is covered with a thin layer of adhesive and transparent substance, as beeswax or the like. The original drawing is then placed under the glass, and its lines, being seen through the glass and wax, are to be followed and engraved through the wax by means of proper engraving-tools. After this it is necessary to fill up with wax those places where the original picture represents or the impressions are intended to represent broad lights. Next, a plaster cast is taken, which, when dry, is to be varnished with cement over those parts that are intended to have a fine grain. Fine siliceous powder or ground glass, sand, or the like is then thickly put on the varnished places. When dry and perfectly hard the loose grains are to be brushed off. Cement may now be applied to such parts as require a coarser texture—such as foliage, drapery, foreground, &c.—and coarser-grained sand is put on such parts. In this way any variety of texture may be produced in the same picture. Before cementing and sanding, the surface of the plaster cast should be filed or rubbed down at the edges of broad lights, or wherever a certain degree of faintness may be desirable in the impression. The sand must

be repeatedly and carefully sifted in order that the single particles of each layer shall be as equal in size as possible. After the cementing and sanding have been finished a fac-simile may be produced in the usual way of electrotyping or stereotyping, and impressions may be taken therefrom on the common letter-press. A number of such types may be made, so as to represent various portions of the picture, and when properly granulated in the manner above described and printed in different colors the same effect can be produced as in chromo-lithography.

The advantages of this process are, first, that it produces with great rapidity a better, more even, and sharper grain than can be obtained by the ordinary method of grinding lithographic stones; secondly, that it substitutes with less labor and expense a granulated metal surface instead of stone, which, when printed from, is rapidly worn out; thirdly, that these “granotypes,” as I denominate them, can be printed along with the typography of a work on the ordinary letter-press; fourthly, that it combines the beauties and advantages of lithography and typography, and that various parts of the picture can be differently grained, which is altogether impracticable in lithography.

It should be stated here that this process of graining is applicable to any other method of preparing the matrix proper, wherein the drawing is not required to be seen so as to be copied through a transparent substance. Instead of glass, an opaque plate may be used, and instead of wax any other suitable non-transparent substance or composition of matter may be employed.

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

The mode herein described of preparing in the picture-types to be printed from granulated surfaces, producing various shades and effects, for the purposes specified.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

JOHN McELHERAN.

Witnesses:

ANTHONY POLLOK,

JOHN S. HOLLINGSHEAD.