

# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN METHODS OF AUTOGRAPHIC PRINTING.

Specification forming part of Letters Patent No. **200,759**, dated February 26, 1878; application filed June 15, 1877.

*To all whom it may concern:*

Be it known that I, JOSIAH PUMPHREY, of Birmingham, England, have invented certain new and useful Methods of Autographic Printing, which improvements are fully set forth in the following specification.

This invention relates to the production and multiplication of copies of writings or drawings by means of autographic printing.

According to this invention the original writing or drawing is made or produced by means of an ink (of the description hereinafter mentioned) having special properties as to divisibility, to non-liability to run or spread in the presence of moisture, and to the permeation of the paper or surface written on. This peculiar ink is compounded by dissolving aniline crystals (of the color the ink is required) in acetic acid, and adding thereto a small percentage (say about ten per cent.) of glycerine.

The writing or drawing having been produced upon ordinary thin writing or drawing paper with this ink, when dry the paper is placed with its inked surface downward on a plate of zinc, or other material impervious to water and having a hard, smooth surface. The sheet of paper upon which it is desired to print is then evenly dampened and laid upon the back of the drawing or written sheet, and on top of all is laid a sheet of oil-paper or other water-proof material. The plate and sheets as thus arranged are then together subjected to pressure in any ordinary copying-press, giving an even and continuous pressure until the ink from the original writing or drawing penetrates to the sheet of paper above it and reproduces thereon a counterpart or copy of the original. This copy is then removed and a fresh sheet of paper substituted, and

the same operations are continuously repeated until the ink from the original writing or drawing is exhausted or ceases to give perfect copies.

The application of this invention is not confined to the use of ordinary pens.

In a modification I prepare a paper with a surface dressed with a varnish which is brittle under pressure, and I write with the above-described ink thereupon, using a glass or other tube, or any suitable vehicle for conveying the ink, pressing therewith sufficiently to rupture the surface of the paper in the direction of the lines of the writing, drawing, or other device. I then proceed with the duplication or copying thereof, as above described, and when the ink is about exhausted, or in aid of its replenishment, I supply fresh color by means of a pad.

The advantages derived from the adoption of these improvements, as compared with other processes of autographic printing, consist in simplicity of operation, economy of printing-color, and increased production or number of copies, and economy of time, as there are no intermediate operations necessary between writing the original and printing the copies.

I claim as my invention—

The method of autographic printing herein described, the same consisting in writing or drawing upon a sheet of paper, which, when dry, is placed face inward upon a plate impervious to water, then covered by a dampened sheet of paper, which is backed with a sheet of water-proof material, and the whole subjected to pressure.

JOSIAH PUMPHREY.

Witnesses:

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