

United States Patent Office.

ABEL CLAUDE FELIX NIEPCE DE ST. VICTOR, OF PARIS, FRANCE, ASSIGNOR TO P. A. G. NIEPCE DE ST. VICTOR AND M. L. J. LAVATER.

Letters Patent No. 73,514, dated January 21, 1868.

IMPROVED PROCESS OF MULTIPLYING COPIES FROM MANUSCRIPTS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ABEL CLAUDE FELIX NIEPCE DE ST. VICTOR, of Paris, France, have invented "A Process for Pulling several Copies or Proofs from any Manuscript, and applications thereof;" and I do hereby declare that the following is a full, clear, and exact description of the same.

Any sort of ink can be employed, but the most effective, and which best allows pulling from an original a number of copies, are inks known and sold in trade as copying-inks, used by tradesmen for writing their correspondence, which is to be afterward copied by the copying-press in the usual manner.

To pull off one or more copies of a letter, either of recent or old date, when only one copy thereof is wanted, I slightly moisten, by means of a sponge or brush, a sheet of tissue-paper. When several copies are wanted, such copies, on issuing from the copying-press, must be submitted to the vapor of liquid ammonia, (volatile alkali,) whereby the copy is made to appear. Many copies may be thus pulled off, provided the tissue-paper be suitably moistened. Liquid ammonia acts on all inks containing an organic substance, such as sumach, Campeachy wood, &c. A red Campeachy-wood ink, acidulated, is reproduced in red, but the copy becomes black under the influence of ammoniacal vapor. In the same manner a black ink may become red under the influence of any chlorohydric, azotic, or acetic acid vapor. Alkalies, such as soda, potash, baryta, lime, and cyanide of potassium, will revive invisible writing when the writing is done with transfer-ink. Writing done with Prussian-blue ink can be reproduced many times on being submitted to chlorohydric acid vapor. In fact, all colored inks containing an organic matter can be reproduced either by an acid or an alkaline vapor, according to the composition thereof.

In order to facilitate reproduction, and also to increase the number of proofs, the tracing-paper may be previously moistened with any sugared or slimy water, candy, or other sugar, glucose, milk, sugar, or honey. Mucilaginous, gelatinous, or resinous matters will also answer the purpose very well. Tracing-paper thus impregnated with sugared or other viscous water will take an impression even from common ink, either of recent or old date; but transfer-ink is best, and yields a greater number of copies.

To submit the sheet to ammoniacal liquids, or rather to ammoniacal vapors, a box may be used, into which the sheet is laid, and in which the ammoniacal vapors are introduced by any suitable means. This box may assume the form of those used in the daguerreotype process for submitting the plates to iodine or bromine vapors, which boxes are made of glass, china, India rubber, or bitumenized pasteboard, with an emery sliding cover to better insure tight closing. Any other suitable apparatus may be employed for submitting the sheets to ammoniacal vapors or dipping them into ammoniacal solutions.

The tracing-paper is to be impregnated, as above described, with either sugar, glucose, or other gummy or slimy vapors, but said ingredients may as efficiently be incorporated with the very paper-pulp during the manufacturing process. In like manner the paper may be partly composed of such materials as are able to develop in proper time the ammonia necessary to the reaction by which the writing is made visible.

To pull off fac-similes from registers or bound books, of too large a size to enter the above-mentioned apparatus, the copy is made by means of a pressure exerted by a small board or burnisher, which is rubbed over the writing, a water-proof sheet of paper being superposed on the sheet which is to be copied out.

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

1. The process of taking copies from manuscripts by submitting the copies, on issuing from the copying-press, to the action of ammonia, substantially as herein described.
2. The treatment of manuscript copies with either alkaline or acid vapors to develop the writing, according to the constituents of the ink, substantially as herein described.
3. The impregnating of the copying-paper with sugar or other adhesive matter, substantially as and for the purpose herein set forth.

NIEPCE DE ST. VICTOR.

Witnesses:

VICTOR HAGMANN,
LAVIALLE.