

UNITED STATES PATENT OFFICE.

JEREMIAH MEYER, OF BAY RIDGE, NEW YORK.

PROCESS FOR PRINTING FROM ENGRAVED PLATES.

Specification forming part of Letters Patent No. 43,421, dated July 5, 1864.

To all whom it may concern:

Be it known that I, JEREMIAH MEYER, of Bay Ridge, in the county of Kings and State of New York, have invented a new and Improved Process for Printing Bank-Notes, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention consists in the application to the paper before printing of a very thin stratum of a hydrated mixture of chalk or other suitable material mixed with or without a small quantity of gum-arabic, and in washing off this stratum after the printing has been accomplished in such a manner that engravings on steel, copper, or composition can be printed from rollers in the ordinary cylinder-machine, instead of printing them from plates or flat surfaces by the ordinary slow process, and that the paper prepared as above stated, when exposed to the pressure of the engraved roller, will readily take the ink, and the film adhering to the elevated or bright portions of the roller and thence deposited on the paper can be readily washed off with the stratum of chalk or other material covering the surface of the paper, and a clean and perfect impression is the result.

To enable those skilled in the art to make and use my invention, I will proceed to describe it.

Heretofore all bank-notes and similar prints have been taken from plates or flat surfaces, which, before an impression is taken, are carefully wiped off with rags, so as to leave the ink in the engraved portions and render the elevated or flat portions of the plate perfectly bright. To print such bank-notes or similar prints from engraved rollers on cylinder-machines has been considered impracticable, because such rollers cannot be wiped off and cleaned with a rag, and the doctor used to scrape off the surplus ink leaves on the bright or elevated surface of the roller a thin film of ink, which is deposited on the paper, and a dirty unclean impression is the result. In order to obviate this difficulty and to be able to take clean impressions from engraved rollers, I prepare the paper by covering its surface before printing with a very thin stratum of a hy-

drated mixture of chalk mixed with or without a small quantity of gum-arabic; or, instead of chalk, white lead or zinc-white or other like materials might be employed. By adding a small quantity of gum-arabic the composition is rendered stable and prevented from coloring when brought in contact with another surface or exposed to friction. After the surface of the paper has been covered with this stratum it is ready for printing, either while wet or after it is perfectly dry, and it can be now passed through under the engraved roller in the ordinary cylinder-machine in sheets of any desired length. The surface of the paper takes from the engraved parts of the roller the ink, which readily penetrates the stratum of chalk and gum and combines with the paper in the usual manner, and it also takes the thin film covering the bright or elevated portions of the roller. The stratum of chalk and gum prevents this film from reaching the paper, and after the impression is dry said film is washed off, together with the stratum of chalk and gum-arabic, and a clean and perfect impression is the result. The process of washing the paper is effected by drawing the paper, after the impression is dry, through clean water and exposing its surface to the gentle pressure of a sponge or fine brush. By these means I am enabled to produce from two to three thousand impressions per hour from an engraving, whereas by the ordinary process in printing from plates not more than sixty or eighty impressions can be effected by the most experienced and skillful workman.

What I claim as new, and desire to secure by Letters Patent, is—

The within-described process of preparing the surface of paper before printing by the application of a mixture of chalk or other suitable material mixed with or without gum-arabic, and washing it after printing, substantially in the manner and for the purpose herein described.

JEREMIAH MEYER.

Witnesses:

J. W. COOMBS,
GEO. W. REED.