T. R. DEMERY.

PROCESS OF PRINTING FROM ENGRAVED PLATES.

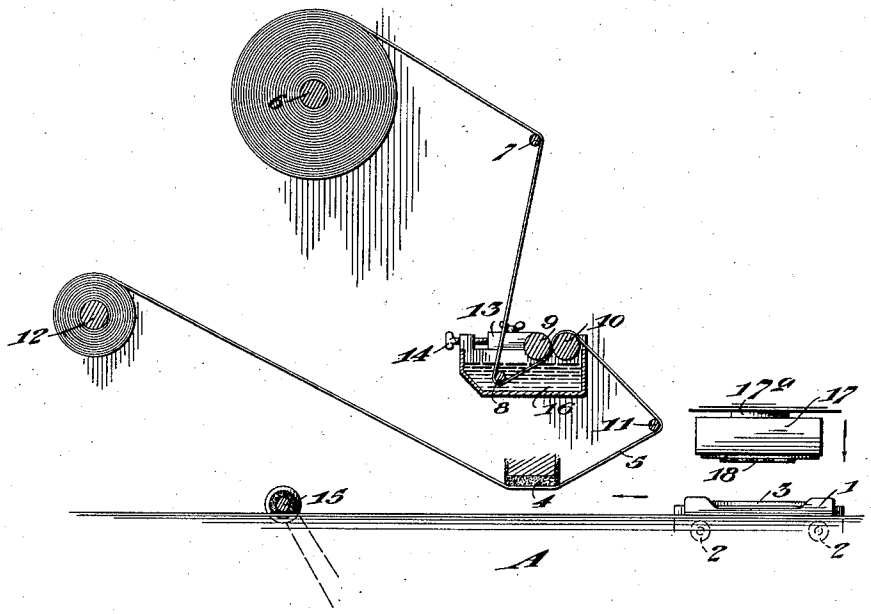
APPLICATION FILED JUNE 28, 1911.

1,025,250.

Patented May 7, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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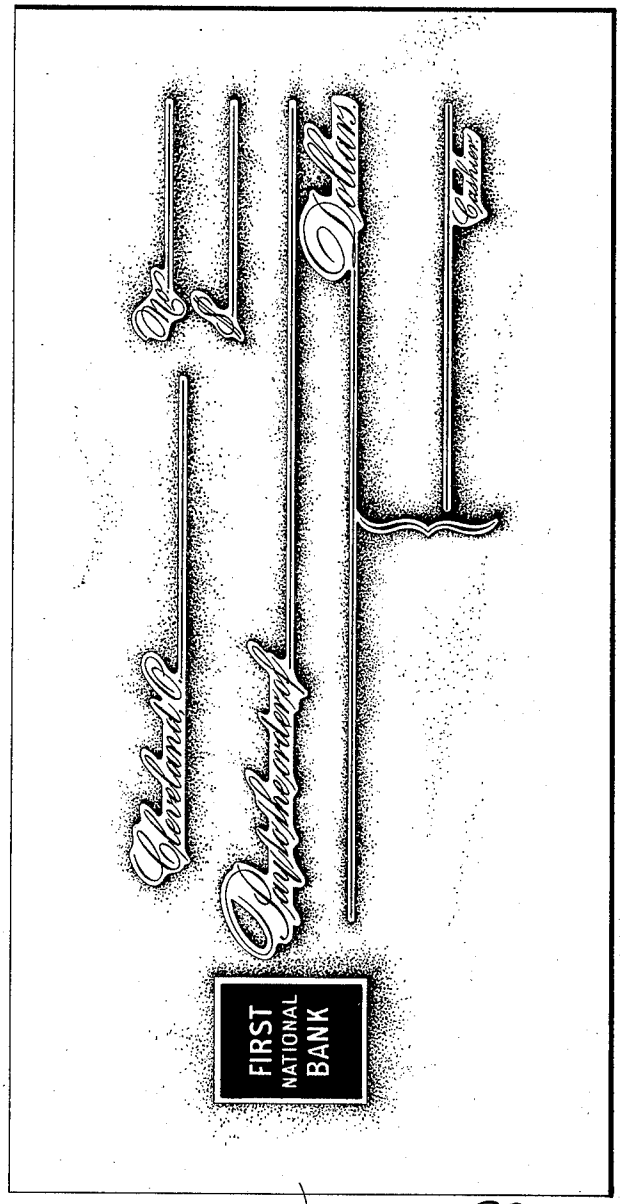

Fig. 2.

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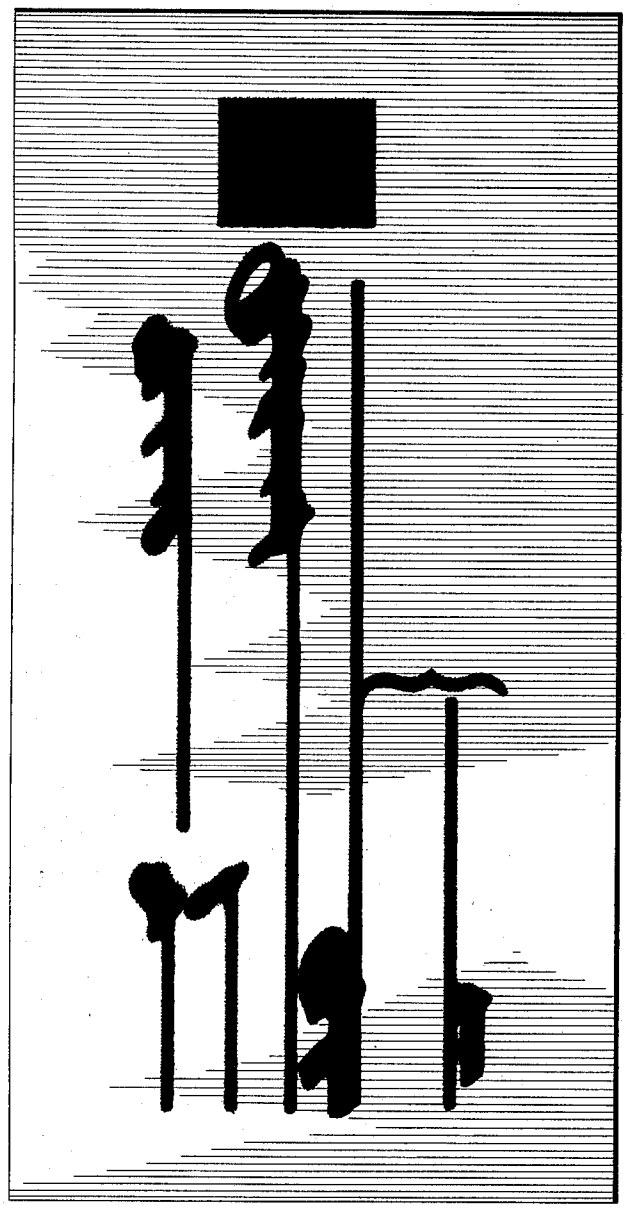

Fig. 3.

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UNITED STATES PATENT OFFICE.

THOMAS R. DEMERY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO MAX ZEITLER ENGRAVING & SUPPLY CO., OF PHILADELPHIA, PENNSYLVANIA.

PROCESS OF PRINTING FROM ENGRAVED PLATES.

1,025,250. Specification of Letters Patent. Patented May 7, 1912.

Application filed June 28, 1911. Serial No. 635,745.

To all whom it may concern:

Be it known that I, THOMAS R. DEMERY, a citizen of the United States, residing at Philadelphia, in county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Processes of Printing from Engraved Plates, of which the following is a specification.

My invention relates to an improvement in the process of printing from engraved plates, and has for its objects the provision of a more efficient wipe to prevent feathering or spurting, and the treating of the plate during said wiping operation in such a manner that the ink will adhere to a relatively small portion only of the surface, thus saving a large percentage of the ink which is ordinarily lost.

In the use of power presses for printing from engraved plates, the usual practice heretofore has been to ink the entire engraved surface of the plate and to then pass it under a pad provided with a paper wipe, which removed the surplus ink from the face, thus leaving the plate in the right condition for the printing contact. By this method, a considerable pressure must be applied to the pad which cleans the face of the plate. The dry paper wipe passing over the plate under this pressure wears away the finer parts of the engraving and materially reduces the life of the plate. A further objection to the use of this method is that the entire face of the plate being dry, the ink adheres to all parts and upon the removal of the surplus ink all of this is lost. On ordinary work, probably 75% of the ink applied is removed by the wipe.

In the accompanying drawings, which illustrate one form of apparatus which might be employed to carry out my process:—Figure 1 is a diagrammatic view to show the relative positions which the several parts would occupy in the plate press, Fig. 2 is a plan view of the counter which has been colored by printing an impression on it, and after the superfluous parts have been cut away, and Fig. 3 is a plan view of the inked plate prior to the wiping.

A, represents the frame of the press. The plate bed 1, is supported in the usual manner by rollers 2, 2, which travel in trackways upon each side of the frame, and the plate 3 is locked in this bed. A wiping pad 4, is slidably mounted in the frame in such a way that when the bed 3 is moved in the direction of the arrow, the pad is raised out of contact, while upon the return, the pad is depressed and has a wiping action across the face of the plate. To obtain a clean surface upon the pad for each wiping action, a cloth wipe 5 is provided. While any suitable cloth which would absorb moisture might be used, I have found that a fabric which has a nap such as canton flannel gives a more uniform dampness, a cleaner wipe, and presents a softer surface to the plate. The wipe is fed from a reel 6, over an idler rod 7, into the moisture pan 16, where it passes under the immersion roll 8, thence up between the wringer rollers 9 and 10, over the straightening rod 11, under wiping pad 4, and up to winding roll 12. It is intended that a predetermined amount of moisture be retained in the cloth, after it passes through the pan, and to insure this, the wringer roll 9 is journaled in the adjustable bearings 13, which are controlled by pressure screws 14. The wipe is moved the desired distance over the pad by any suitable mechanism for turning wringer roll 10.

The engraved plate is inked by passing under inking roll 15, during its rearward movement.

A pressure head 17ª carries the counter block 17, upon which the counter 18 is built up. The counter is formed in the usual manner of card-board and the like to a thickness of probably three-sixteenths of an inch and is then well beaten up or compacted, after which the superfluous parts are cut away to a distance of one-sixteenth or one-eighth of an inch around the engraving, as shown in Fig. 2.

Assuming that the counter has been prepared and the press is in operation, the steps are as follows: Referring to Fig. 1, the plate has passed under the wiping pad where the face was wiped and covered with a film of moisture. The moist plate with the ink in the engraved lines only, continues its movement to the position shown. The pressure head is then depressed and exerts a pressure upon the sheet which has been fed onto the plate to receive the impression. This pressure causes the paper to draw the ink from the lines, and at the same time absorb the moisture from those sections of the face of the plate against which the counter presses it. The plate with the ink removed and the

face dry upon the engraved portion to a distance of one-sixteenth to one-eighth of an inch therefrom, now has its movement reversed, passes beneath the raised pad and under the inking roll where the dry portion only is inked, and reversing, back beneath the depressed pad where it is wiped and the operation thus continues as hereinbefore described.

The ink which is composed almost entirely of grease does not adhere to the damp portions of the face of the plate, but only to the engraved parts, as illustrated in Fig. 3, and hence only about 25% of the ink which would be lost by the present process is wiped away.

It will be seen that I have evolved a process of printing from engraved plates which provides a more efficient wipe, lengthens the life of the plate, and materially reduces the waste of ink.

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

1. The process of printing from engraved plates consisting in wiping the inked plate with a moist wipe, placing a sheet of paper against the plate under pressure to receive the impression, said pressure drying the plate only on the parts immediately surrounding the engraving, inking the dry portions only, and continuing the operation as before.

2. The process of printing from engraved plates consisting in wiping the inked plate with a wipe containing a predetermined amount of moisture, thereby depositing a film of moisture of a certain density upon the face, placing a sheet of paper against the plate under pressure to receive the impression, absorbing the moisture upon those portions only of the face immediately surrounding the engraving, applying ink to the dry portions only of the face, and continuing the operation as before.

In testimony whereof I affix my signature, in the presence of two witnesses.

THOMAS R. DEMERY.

Witnesses:
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MICHAEL D. HAYES.