

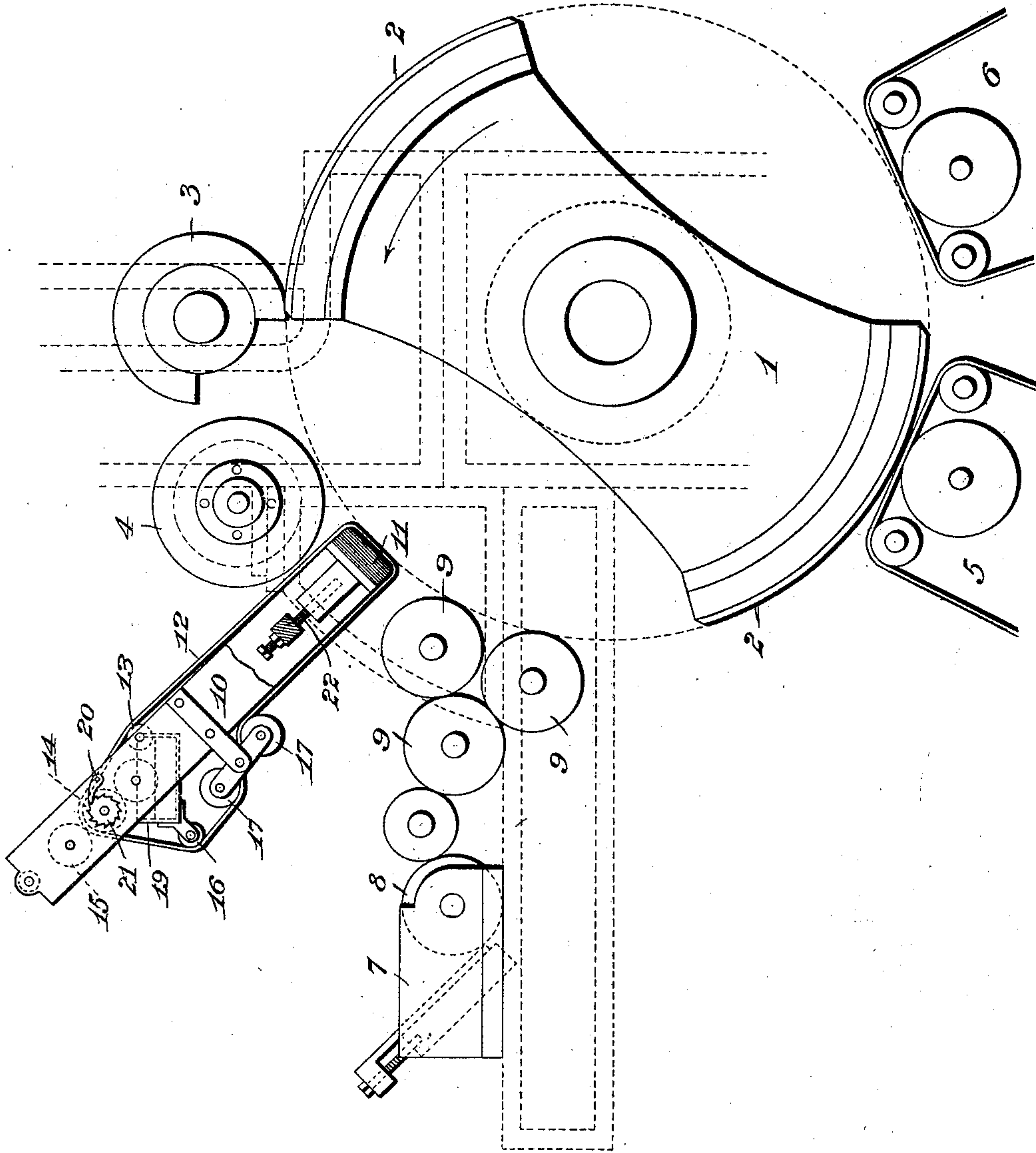
No. 692,351.

Patented Feb. 4, 1902.

A. REID.
ART OF PLATE PRINTING.

(Application filed May 29, 1900.)

(No Model.)



Witnesses

G. S. Elliott
Geo. M. Copenaver,

Inventor

Alexander Reid

By Lucy B. Hills
Attorney

UNITED STATES PATENT OFFICE.

ALEXANDER REID, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO THE AMERICAN BANK NOTE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ART OF PLATE-PRINTING.

SPECIFICATION forming part of Letters Patent No. 692,351, dated February 4, 1902.

Application filed May 29, 1900. Serial No. 18,401. (No specimens.)

To all whom it may concern:

Be it known that I, ALEXANDER REID, a citizen of the United States, residing at Jersey City, in the county of Hudson, State of New Jersey, have invented new and useful Improvements in the Art of Plate-Printing, of which the following is a specification.

My invention relates to the art of plate-printing, and has for its object to provide an improved process for treating an ordinary finished engraved or intaglio plate preparatory to taking an impression therefrom, whereby the plain or unengraved portions of said plate will repel or will not retain the ink deposited thereon in the usual inking operation, while the engraved or intaglio lines of said plate will be in no wise affected and will receive their proper quantity of ink in the usual manner, said plate being finally subjected to a wiping and polishing action in the usual manner in order to obtain a perfect impression. This object I accomplish by depositing upon said plate after each impression is taken therefrom and before the ink is applied thereto for a new impression a film or coating of liquid, preferably water, then inking said plate, and finally subjecting the same to a wiping and polishing action, it having been found that the deposit of said film or coating effectually prevents the deposit or at least the retention of substantially any ink upon the plain or unengraved portions of said plate while it in no way affects the capability of the engraved or intaglio lines of said plate for taking their proper quantity of ink.

In the drawing accompanying this specification I have illustrated a mechanism capable of accomplishing the desired result, the same being shown applied to a rotary plate-printing press carrying two plates.

In the said drawing the figure is a side elevation of a rotary plate-printing press, the framework being shown in dotted outline.

In the said drawing the reference-numeral 1 denotes the plate-cylinder, carrying two plates 2, above which is located the usual impression-cylinder 3. To the rear of said impression-cylinder is mounted a gripper-cylinder 4 of any desired type, as shown, for

instance, in Letters Patent to J. T. Robertson, No. 622,168, while on the under side of the press are located the wiping mechanism 5 and polishing mechanism 6. The inking mechanism is located on the rear side of the plate-cylinder and consists of the usual ink-fountain 7, fountain-roll 8, and ink-rolls 9. All of the above-described parts may be of any desired construction and form no part of the present invention.

Intermediate the gripper-cylinder 4 and inking mechanism is located a carrier 10, in which at a point in the path of travel of the plates 2 is a soft flat pad 11 of any suitable material, over which passes a belt of fabric 12, preferably shirting-muslin, which is carried up over guide-roll 13, between a moistening-roll 14 and squeezing-roll 15, thence downward over guide-roll 16 and tension-rolls 17, and over the face of pad 11 again. The moistening-roll 14 receives its liquid from a feed-roll 18, rotating in tank 19, as will be readily understood. A pawl 20, operated by any suitable mechanism from the press and engaging with a ratchet-wheel 21 on one end of the moistening-roll 14, serves to intermittently rotate the latter, so as to present a fresh wetted surface of the belt 12 to each plate 2, the operation being such that said belt is stationary while a plate is passing in contact therewith. A suitable adjusting-screw 22 serves to adjust the pad 11 in its relation to the plates 2.

From the above description the operation of my invention will be understood to be as follows: In the rotation of the press each plate 2 delivers its impression to the paper fed therein and passes onto the ink-train, before reaching which, however, it passes the wetted belt 12, pressed in contact therewith by the pad 11, from which it receives a film of liquid sufficient to cover the polished or unengraved surface of the plate, but not sufficient to enter the engraved lines. The plate then passes on to the inking-rolls 9, from which it receives the ink in the usual manner. It will be found, however, that the polished or unengraved portions of said plate will retain substantially none of the ink deposited there-

on, though the engraved lines of said plate where the ink is desired will be properly filled with the ink. The plate is then subjected to a slight wiping and polishing action in order to obtain a perfect impression, for the reason that the ink deposited in the engraved lines will when deposited in quantity sufficient to insure a proper inking project slightly above the surface of the plate and will present a rough and uneven surface, which is readily removed by the wiper 5, leaving the surface of the ink even with the surface of the plate. The polisher 6 then imparts the desired finish to the plate, and it is ready to be printed from.

It will thus be seen that the application to an ordinary finished intaglio metal plate of the film or surface of liquid prior to the passage of said plate past the inking mechanism renders those portions of the plate upon which no ink is desired incapable of taking the ink, while it in no way affects the deposit of the ink in the engraved lines, a desideratum heretofore thought impossible of attainment.

I am aware that it is old in the lithographic art to so give a metal surface, whether intaglio or not, a preparatory treatment that those portions of the surface which are not to print will retain a film of moisture applied thereto, the purpose of which is to repel the ink, as in the case of an ordinary lithographic stone. In my present invention such preparatory treatment of the printing-surface is not employed and is disclaimed, the essential feature of the same residing in the application of the liquid to the ordinary polished, en-

graved, or intaglio plate without any preparatory treatment thereof.

My improved process is designed for use more particularly with steel or copper surfaces as distinguished from other metal surfaces, such as aluminium or zinc, which latter have been heretofore used more or less extensively as lithographic surfaces.

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

1. In the art of plate-printing, the process of treating an engraved or intaglio plate preparatory to taking an impression therefrom, which consists in first dampening or depositing on the ordinary finished surface thereof and without preparatory treatment a film of liquid, then inking said plate in the usual manner, and finally wiping and polishing the same, substantially as set forth.

2. In the art of plate-printing, the process of treating an engraved or intaglio steel plate preparatory to taking an impression therefrom, which consists in first dampening or depositing on the ordinary finished surface thereof and without preparatory treatment a film of liquid, and then inking said plate in the usual manner, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALEXANDER REID.

Witnesses:

ISAAC F. GOLDENHORN,
HEIMAN FEINSTEIN.