I. REHN.

Mode of Preventing the Counterfeiting of Bank Notes.

No. 38,335. Patented Apr. 28, 1863.





C C



E E

Witnesses by
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UNITED STATES PATENT OFFICE.

ISAAC REHN, OF PHILADELPHIA, PENNSYLVANIA.

MODE OF PREVENTING THE COUNTERFEITING OF BANK-NOTES, &c.

Specification forming part of Letters Patent No. **38,335**, dated April 28, 1863.

To all whom it may concern:

Be it known that I, ISAAC REHN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and Improved Mode of Preventing the Counterfeiting of Bank Notes, Checks, Drafts, and other Paper Values; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying exhibits, and to the letters of reference thereon marked.

The object of my invention is to render the counterfeiting of paper values impossible without the same being known in such a way as to defeat the object of such attempt.

In order to enable others to apply my invention, I will proceed to explain the nature of the same and the mode of its application.

The only known sources from whence counterfeits can originate are, first, from the engraver, and, second, from the photographer. Counterfeits from the latter source have never been very numerous, and rarely successful. More recently, from the employment of colored inks in bank-note printing, and particularly the non-removable inks, of which that made from the sesquioxide of chromium is an example, photography has been successfully defeated as an agent of counterfeiting. From this source, therefore, while the above-named safeguard is properly employed, there is no danger; but from the efforts of the engraver we are by no means secure, no matter what may be the character or quality of the execution of the plates. The immense amount of talent that during latter years has been employed in the production of elaborately-executed plates seems only to have made counterfeiting a little more difficult, without, in any sensible degree, diminishing it. It is therefore against engraved counterfeits that my invention is more especially directed, while at the same time it is secure against photography. My plan of securing this end is to produce bank-notes, &c., in which a portion only is engraved, and the balance of the work of such a character that it cannot be successfully engraved.

Let the accompanying exhibit (marked A) represent a bank-note engraved in the usual way. From this I make a photolithographic or photozinchographic reduction, or by any analogous process, upon copper or other suitable metal, from which to print in ink the fac-similes and other parts of the note constituting that division of the work, as herein set forth and explained. The accompanying reduction of exhibit A (and which is marked A A) is a photolithographic reduction, and is appended as a further illustration of my method. This reduction I make about one-fifth the size of the original plate. After this reduction is made I stop out of the original plate a space the size of the reduction, in which is inserted, by a subsequent printing, the reduction A A, as shown in exhibit B. It will of course be necessary to design the note so that the whole will be artistic and symmetric when the work is completed. As an additional means of security, I make a stereoscopic portrait or stereoscopic view of some particular locality or object set up for this special purpose, and by photolithography or some analogous process print the same into the body of the note. As an illustration of this point see exhibit C, which is a photolithographic stereoscopic portrait; also, exhibit E, which is a photolithographic stereoscopic view.

A very great variety of modes in which my invention may be applied will suggest themselves, and almost any judicious application will be effective in the defeat of engraved counterfeits. Bank-notes are engraved as fine as the perfected state of the art can make them. To produce a fac-simile therefore of one-fifth the size, or as much less as the reduction may be, would be impossible, were there no other difficulties in the way. The linear or perspective accuracy required in the production of a stereoscopic or solid picture is so great that no human skill has ever effected it, except in trigonometrical and geometrical outlines, which were very imperfect, and only illustrative of the law involved in the production of the picture. As is well known, there are no two lines mathematically the same in the two pictures, inasmuch as they are made at different angles. This must be, it would seem, an insuperable barrier to all hand execution of complex stereoscopic pictures; but, after all, there are in reality no lines in photographic pictures—that is, lines such as a graver cuts—and the marked difference in the character of the two kinds of work will make each apparent. The banks or other institutions having notes executed may themselves become parties in the work of the note in such way as that no repro-

duction of the plate can ever occur without their knowledge. This may be effected by simply authorizing some one or more persons to sit for a stereoscopic-portrait negative in some particular or unusual position or arrangement of the sitter or sitters and accessories of the same, which, after being used for the legitimate purpose for which it shall be intended, is either destroyed or safely secured, it being but necessary to guard against the use of photography and photolithography in copying of the said note, and which, by the judicious employment of the non-removable colored inks, is effectually prevented.

Another advantage arising from the use of my mode of producing bank-notes is the facility with which the genuine character of the note may be made out, a small pocket-stereoscope or a six to eight inch focus pair of eyeglasses being all that is required.

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

The combination of the work of engraved plates with photolithography or other modes of photography upon metal or other substances, from which impressions may be printed in ink for the production of bank-notes or other paper values, as set forth in the above specification and accompanying exhibits.

ISAAC REHN.

Witnesses:

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