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MEANS FOR DETECTING COUNTERFEIT BANK NOTES, BONDS, COUPONS, AND THE LIKE.
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1,002,600.

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Fig. 1.



Fig. 2.

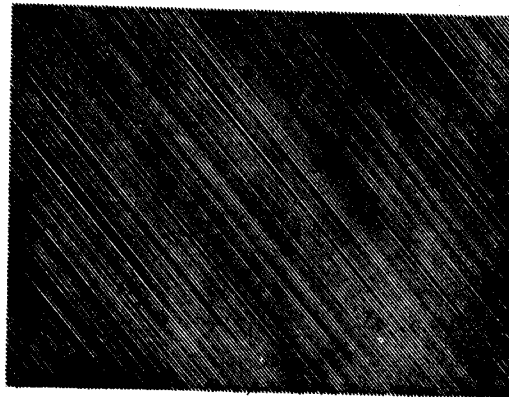


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

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MEANS FOR DETECTING COUNTERFEIT BANK-NOTES, BONDS, COUPONS, AND THE LIKE.

1,002,600.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, EDWARD ROBERT MORRIS and ALFRED EDWIN BAWTREE, subjects of the King of Great Britain, residing at 9 and 10 Fenchurch street, London, England, have invented new and useful Improvements in Means for Detecting Counterfeit Bank-Notes, Bonds, Coupons, and the Like, of which the following is a specification.

Our invention has for its object to provide means for producing upon bank-notes, bonds, coupons and the like, letters, figures, devices or other distinctive marks, which are invisible except when inspected through a special detector as hereinafter described, whereby counterfeit notes, bonds and the like may be readily detected.

Our invention consists essentially in printing or otherwise producing upon, or in, the paper of a bank-note or the like, a lined ground-work (which may be subsequently overprinted in any suitable manner) having upon it letters, figures, or devices of a distinguishing character which are of the same tint as the ground-work, but produced in lines at angles to the lines thereof, so that such distinctive letters or the like are almost invisible in connection with the ground-work, and absolutely invisible when overprinted, and in the use in conjunction with a surface so printed of a lined screen or surface, the lines or marks upon which bear such relation to the lining or marking of the ground-work, that when the said screen is in juxtaposition to the printed surfaces, the said distinguishing marks will be rendered visible notwithstanding the overprinting.

Our invention will be readily understood by reference to the accompanying drawing.

Figure 1 illustrates a sample of the ground-work composed of parallel lines, the said ground-work having upon it, in the present case, the word "lux" which is composed of parallel lines arranged at right angles to the other lines, the two sets of lines giving the effect of a neutral tint. Fig. 2 indicates a screen of glass or other transparent material having upon it a series of equally spaced lines, the said screen being made, however, without any distinctive letters or the like upon it, as in the case of the ground work. When this lined screen is placed over the ground-work it will be obvious that the lines thereof will intersect the lines forming the distinctive

letters at a different angle from the other part of the ground-work, with the result that such letters will appear distinctly visible as shown in Fig. 3, in either a lighter or darker tone, according as to whether the lines of the screen are parallel with the lines of the ground-work, or more or less at an angle thereto. When this ground-work is overprinted the distinctive marks thereon become absolutely invisible to the naked eye, but can be nevertheless distinctly seen by means of the screen.

The ground-work may be printed in any color; a very good effect is secured by printing it in a light yellow which is almost invisible but is seen clearly if viewed through a screen in a violet light, or through a screen produced upon violet glass. Or the security tint may be printed in any phosphorescent or fluorescent substance such as sulfate of quinin the distinctive letters appearing when the printed document is photographed through the screen, or when it is examined by a suitably dyed or otherwise treated screen. In some cases the security tint may be filagrammed or water-marked, or otherwise worked in the fabric of the paper, or it may be printed inside the paper, or on either or both sides thereof, or any or all of these methods may be used in combination.

The examining screen may form part of the document itself being printed on either side of the paper or within its substance so that the design is rendered visible on holding the document up to the light. When so printed it may be in a color which requires a special colored light to render the distinctive features visible, for example, the special colored tint may be printed in gray on one side of the paper and the examining screen may be printed inside the substance of the paper in light blue, in this case the design will only become visible if the document be examined by a red or orange light.

It will be understood that the system may be used alone or in combination with any other printing, water marking, fiber, or any other additions to the documents for the sake of ornament or security, and also that the ground tint may be of any pattern for instance the body can be of lines in concentric circles and the distinctive letters or the like in parallel or radiating lines.

Having now particularly described and ascertained the nature of our said invention

and in what manner the same is to be performed, we declare that what we claim is:—

1. Means for detecting counterfeit bank notes, bonds, coupons and the like, consisting in applying to the fabric of such documents arbitrary distinctive identifying characters or designs composed of parallel lines and a ground work composed of parallel lines disposed angularly with respect to those of the characters or designs, all of said lines being of such fineness as to produce an even tint, the characters and designs being discernible only by aid of a special detector.
2. Means for detecting counterfeit bank-notes, bonds, coupons and the like, comprising a uniform ground-work with distinctive letters or devices upon it formed by lines at an angle to the lines of the main portion of the ground-work, and of a second series of

lines also produced upon the bank-note or the like, the said series of lines being printed in colors so that when viewed in a special light the distinctive devices will be rendered visible, substantially as described.

3. Bank notes, bonds, coupons or the like, provided with arbitrary distinctive identifying characters or designs, composed of parallel lines and a ground work composed of parallel lines, disposed angularly with respect to those of the characters or designs, all of said lines being of such fineness as to produce an even tint, the characters and designs not being discernible only by aid of a special detector.

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