May 8, 1923. 1,454,837

B. W. SMITH

SAFETY PAPER AND METHOD OF MAKING SAME

Filed July 17, 1919

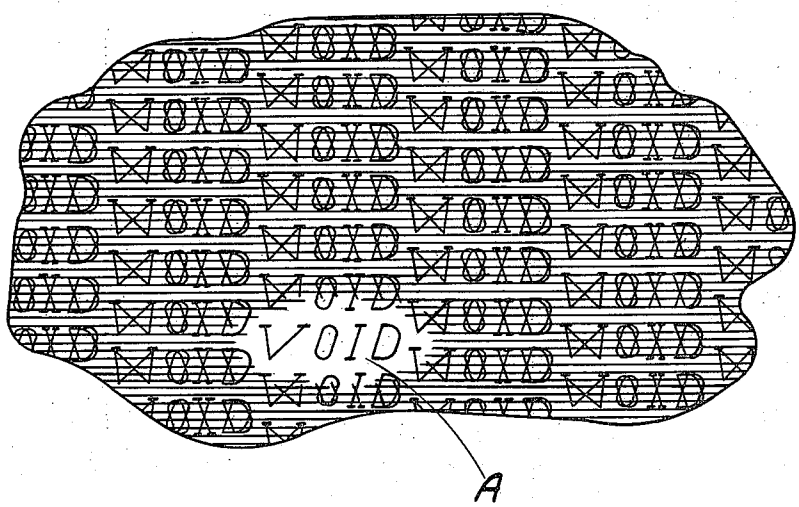
Fig-1

VOID

Fig-2

VOID

Fig-3



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Patented May 8, 1923. 1,454,837

UNITED STATES PATENT OFFICE.

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SAFETY PAPER AND METHOD OF MAKING SAME.

Application filed July 17, 1919. Serial No. 311,673.

To all whom it may concern:

Be it known that I, BURGESS W. SMITH, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Safety Paper and Methods of Making Same, of which the following is a specification.

This invention relates to safety papers, that is, papers which are intended to be used for checks, drafts or other valuable instruments, and are designed to protect users by betraying in some way any attempts to make fraudulent alterations in matter written, printed or otherwise indicated on the paper.

A broad object of the invention is to provide an improved method of making safety paper and an improved paper which will yield a high degree of protection at a relatively low manufacturing cost. Another object is to provide a safety paper which will be so affected by attempts to make erasures as to disclose words, symbols or other indicia showing that the instrument has been tampered with. In this application the word "Void" is employed, but this is, of course, illustrative only. Any other word or form of indicia may be used according to preference or the purpose to be served.

Still other objects will appear in connection with the following detailed description in which reference is made to the accompanying drawing illustrating one embodiment of the idea.

In said drawing:

Fig. 1 represents the warning or nullifying word used for illustration, with the letters thereof at one angle and Fig. 2 shows the same word with its letters inclined at a different angle.

Fig. 3 shows how words such as shown in Figs. 1 and 2 may be superimposed to give an arbitrary design, how other matter may be added to complicate the design and how the nullifying or warning indicia will be exposed if an erasure is attempted.

Stated in a general way, the invention comprises marking in a relatively indelible manner upon the paper or printing thereon in permanent ink matter which when visible or standing alone tends to nullify an instrument or warn against acceptance, and matter camouflaging, masking or obliterating the outlines of the permanent matter so as to render the latter indistinguishable or invisible. The accompanying matter may be of any desired form or color and may be applied in ink which is deleble or erasable in the sense that it will be removed by attempts to erase an inscription on the paper either by abrasion or by using what are popularly known as "ink eradicators," or by both methods of erasure, and it is preferred to use an ink which is readily removed by both methods of erasure. In this description and in the claims therefor, the terms "erasable" and "deleble" are employed as referring to inks and like materials and methods of applying the same to the paper having either or both properties.

The accompanying matter may for example cooperate with the permanent matter to form a conventional or arbitrary design in which the permanent matter is indistinguishable, or to make permanently printed words look like other words, or the permanent matter may be printed on a paper having a white or colored background and then overprinted in an erasable ink or paste of the same color as the background to obliterate the permanent printing or render it invisible. The permanent or indelible matter may obviously be applied as a watermark, or in ink which is normally substantially invisible and adapted to have its color deepened by reaction with bleaching chemicals commonly employed in the so-called "ink eradicators," as well understood in the art. Any way of preparing the paper, whereby there is marked or printed on it in a relatively indelible or permanent manner warning or nullifying indicia with accompanying matter removable by attempted erasures so as to expose or render the permanent matter effective, is considered to be within the scope of the invention. Paper prepared in the ways suggested will be affected by erasures to strip off the camouflaging, confusing or obliterating matter, thereby baring or disclosing the permanent matter in recognizable outline and rendering it effective to nullify the instrument or at least warn against acceptance. The permanent matter is exemplified in the following detailed description by the word "Void" but as already stated any other symbol, sign or form of indicia may be

employed which is capable of inherently conveying or signifying a warning, as, for example, the representation of a semaphore, or a flag or other warning sign.

In the accompanying drawing, there is illustrated a way in which the invention can be practiced to prepare paper so as to give the appearance of an all-over design, with parts of the design removable by attempts at erasure to expose the nullifying word "Void." The different letters and lines comprising such a design may be applied in any desired relations and in any desired sequence, although the best results will be obtained by first printing the nullifying word or its equivalent in permanent ink and then overprinting, by one or more operations, the erasable matter intended to complete the design and, at the same time, render the permanent matter indistinguishable or unrecognizable.

To produce a paper in the manner illustrated in the drawing, the nullifying word "Void," with its letters arranged as shown in Fig. 1, is first printed on the surface of the paper either so it will fall on that part of the instrument which it is intended to protect or the word may be repeated in spaced relation all over the paper. The latter is preferable, as it is easier to apply other matter to give the effect or appearance of an all-over design such as is in common use in making safety papers and all parts of the paper are protected. This nullifying word is printed in a permanent ink such as a carbon ink in a hard-drying varnish vehicle. Such ink gives a clearly defined black impression, is highly resistant to abrasion, and "ink eradicators" have no affect upon it. Well known inks of other colors and having the same resistant qualities may be employed if desired.

The word "Void," with its letters arranged as illustrated in Fig. 2, may then be printed in superimposed relation upon the permanent printing, the second impression being made in an ink which is preferably of the same color as the permanent ink, but which is deleble or erasable. If the carbon permanent ink is used, a good deleble ink to match it may be made by employing a nigrosine black lake in a water soluble vehicle such as gum arabic and glycerin. Such an ink is soft-drying, so that it will be easily removable by abrasion and it is also removed by the action of "ink eradicators." As shown in Fig. 3, the superimposed relation of the two printed words and the different angles of inclination of the letters give the effect of an arbitrary design in which the identity of the permanently printed word is concealed.

As so far described, the product would be very satisfactory, as the superimposed impressions may be applied in various relations to give various pattern effects. There may, however, also be employed additional matter of the same or other colors and in any desired form or appearance to complicate and complete various designs desired. In Fig. 3 of the drawing, this additional matter is arbitrarily represented by parallel horizontal lines. Such lines or other matter may be applied by one or more successive operations and with different inks according to the nature of the matter or the colors desired, but usually the additional matter may be applied by means of the same ink as the erasable matter represented by the word "Void" illustrated in Fig. 2. If the same ink is used, all of the matter to camouflage or confuse the outlines of the permanent matter may be applied by one overprinting operation.

If an attempt is made to erase matter from paper treated as described, the matter in deleble ink will be removed as shown at A, Fig. 3, thereby disclosing or rendering distinguishable the nullifying or equivalent matter printed in the permanent ink. With such a warning plainly visible, there is little danger that the altered instrument will be accepted. After erasure it is difficult to replace the erased matter so as to restore the original appearance of the instrument. This is especially true when a camouflaging pattern is used such as described, as compared with the use of a mere overprinting in solid color, the latter having the further disadvantage of tending to require too thick a coating.

While the foregoing discloses a highly satisfactory way of practicing the invention to produce a paper which will admirably fulfill the purpose intended, it is not the desire to be limited to any one way of practicing the invention or to any one form of resulting material, as both are capable of numerous changes and modifications, all coming within the scope of the claims which follow.

What is claimed is:—

1. A safety paper on which is printed in non-erasable ink matter which, if exposed, would indicate attempts to give an instrument a meaning different from that which it was originally intended to have, and matter masking the permanently printed matter, said masking matter being printed in erasable ink of the same color as the non-erasable ink.

2. A safety paper on which is printed in non-erasable ink matter which standing alone would nullify an instrument, and matter printed in erasable ink of the same color as the permanent ink and arranged in lines cooperating with the permanent matter to form a conventional design normally rendering said nullifying matter inconspicuous.

3. A safety paper having permanently printed thereon reading matter which standing alone would nullify an instrument, and

having also a camouflaging overprinting in erasable ink.

4. A safety paper on which is printed in non-erasable ink reading matter which, if standing alone, would render an instrument void, and matter in deleble ink comprising lines rendering the non-erasable matter indistinguishable.

5. A safety paper on which is permanently printed reading matter which, if readable, would nullify an instrument, and matter printed in erasable ink arranged in lines cooperating with the permanently printed matter to give the appearance of a conventional design.

6. A safety paper having an all-over design comprising a set of repetitions of the word Void and a set of superimposed repetitions of the same word, the letters of the words in one set being at an angle to the letters of the words of the other set and one set printed in non-erasable ink and the other in erasable ink.

7. A safety paper on which is printed in non-erasable ink the word Void with its letters inclined in one direction, and a superimposed impression in erasable ink of the word Void with the letters thereof inclined in a different direction, the lines of the two impressions cooperating to form a conventional design.

8. A safety paper on which is printed in non-erasable ink the word Void with its letters inclined in one direction, a superimposed impression of the word Void with the letters thereof inclined in a different direction, the two impressions cooperating to form an arbitrary design, and other overprinted matter to further complicate the design.

9. A safety paper on which is printed in permanent ink reading matter which, if exposed, would nullify an instrument, and having successively applied overprintings in lines designed to camouflage the permanent printing and in ink removable by abrasion or by ink eradicators.

10. The method of making safety paper which consists in printing on the paper in permanent ink matter which standing alone would inherently nullify an instrument, and then overprinting in erasable ink matter arranged in lines cooperating with the permanent matter to form an arbitrary design camouflaging said nullifying matter.

11. The method of making safety paper which consists in printing successive superimposed impressions combining to form a conventional design, one of the impressions being in permanent ink and having the form of inherently significant characters which standing alone would nullify an instrument and the other impressions in erasable ink.

12. The method of making safety paper which consists in printing upon the paper in non-erasable ink the word Void, then printing over said word in erasable ink the word Void, the letters of the two words crossing each other at an angle and combining to form an arbitrary design.

13. The method of making safety paper which consists in printing on the paper the word Void with the letters thereof inclined in one direction, then printing in superimposed relation the word Void with the letters thereof inclined in the opposite direction, one of said printings being in erasable ink and the other in non-erasable ink and the lines of the two combining to form an arbitrary design.

14. The method of making safety paper which consists in providing the paper in repetition over substantially its entire surface with relatively indelible markings adapted to inherently convey a warning and also with a relatively deleble marking masking said warning markings and adapted to be removed by an erasure made on said paper to expose said warning markings.

15. The method of making safety paper which consists in printing upon the paper in relatively non-erasable ink and in repetition over the surface thereof, a word inherently carrying a warning of alteration of the paper, and in printing over said warning word in relatively erasable ink, one or more patterns concealing said warning word until an erasure is made on the paper.

16. A safety paper provided with a relatively indelible marking adapted to inherently convey a warning, when visible, that the paper has been altered, and provided also with a relatively deleble marking adapted to conceal said indelible marking until removed by an erasure made on the paper.

17. A safety paper on which is printed in non-erasable ink, reading matter which, if readable, would indicate that the instrument has been altered, and a pattern printed in erasable ink and co-operating with the permanent matter to render the latter illegible.

18. The method of making safety paper which consists in first printing on the paper in permanent ink reading matter which, if readable, would indicate that the instrument has been tampered with, and then overprinting a pattern co-operating with the permanent matter to render the latter illegible.

In testimony whereof I affix my signature.

BURGESS W. SMITH.